

| | |
|--|---|
| 1. DATE - TIME GROUP 7 Sept 64 08/0306Z | 2. LOCATION Whiteman AFB, Missouri |
| 3. SOURCE Military | 10. CONCLUSION INSUFFICIENT DATA FOR EVALUATION |
| 4. NUMBER OF OBJECTS One | |
| 5. LENGTH OF OBSERVATION One Hour | 11. BRIEF SUMMARY AND ANALYSIS Object changing course moving with wind. Observed as a bright light to South of several Missile sites. In sight for over one hour. Kept changing course. Report as low (200 ft). Efforts by mobile team to close on object failed. Chase turned over to civil authorities. Object described as a blue light size and brightness of auto headlight. At one time reported to appear to explode in mid air. Kept moving and reported to be as low as 20 ft off ground at one of the sites. COMMENTS: Object apparently moving with wind. Definite track of object as observed not included with the report. Sighting indicates a possible balloon at low altitude with light attached. Insufficient data for a firm analysis. No report from the civil authorities who continued chase of object and no flight path of object included with the report. |
| 6. TYPE OF OBSERVATION Ground-Visual | |
| 7. COURSE Erratic | |
| 8. PHOTOS <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| 9. PHYSICAL EVIDENCE <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |

COLUMBIA, MO.
38° 58' N 92° 22' W
TST-90th Meridian El. 238
Rawinsonde WBRT-57

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

WINDS-ALOFT COMPUTATION SHEET (LAND STATION FORM)

WBAN-20

| | Year | Month | Day | Time |
|---------------------------|------|-------|-----|------|
| Actual time th mer. | 1964 | SEP | 5 | 1715 |
| Scheduled (G.M.T.) | 1964 | SEP | 6 | 20 |
| Ascension No. 225 | | | | |

Page
2

| Slant range (M.) (yds.) | Pibal ht. above sfc. (m.) | Minute | Raw in ht. above surface (m.) | Elevation angle° | | Distance from observation point (m.) | Azimuth angle ° | Minute | Wind | |
|----------------------------|---------------------------------|--------|--|------------------|----------|---|-----------------------|--------|-----------------------|-------------------|
| | 100- gram | | | Observed | Smoothed | | | | Direction° 360°= N | Speed (m.p.s.) |
| | | | | | | | | | | |
| | 14570 | 51 | 17480 | 17.25 | | 39500 | 256.2 | 51 | | |
| | 14860 | 52 | | 17.15 | | | 256.3 | 52 | 261 | 23.0 |
| | 15145 | 53 | 13020 | 17.05 | | 41800 | 256.6 | 53 | | |
| | 15425 | 54 | 13280 | 16.75 | | 43500 | 256.7 | 54 | 260 | 25.0 |
| | 15705 | 55 | 12630 | 16.55 | | 45100 | 256.8 | 55 | | |
| | 15985 | 56 | 13880 | 16.45 | | 46400 | 256.8 | 56 | 260 | 24.5 |
| | 16265 | 57 | | 16.20 | | | 256.9 | 57 | | |
| | 16545 | 58 | 14420 | 16.00 | | 49400 | 257.2 | 58 | 262 | 21.0 |
| | 16825 | 59 | | 16.00 | | | 257.6 | 59 | | |
| | 17105 | 60 | 14920 | 15.95 | | 51400 | 257.7 | 60 | 264 | 16.5 |
| | 17385 | 61 | | 15.90 | | | 257.7 | 61 | | |
| | 17670 | 62 | 15440 | 15.80 | | 53300 | 257.8 | 62 | 268 | 13.0 |
| | 17950 | 63 | | 16.00 | | | 258.2 | 63 | | |
| | 18235 | 64 | 15980 | 16.10 | | 54450 | 258.2 | 64 | 274 | 8.5 |
| | 18515 | 65 | | 16.25 | | | 258.3 | 65 | | |
| | 18795 | 66 | 16520 | 16.45 | | 55000 | 258.5 | 66 | 275 | 8.0 |
| | 19080 | 67 | | 16.55 | | | 258.8 | 67 | | |
| | 19360 | 68 | 17200 | 16.70 | | 56400 | 258.8 | 68 | 266 | 8.5 |
| | 19645 | 69 | | 16.90 | | | 258.6 | 69 | | |
| | 19925 | 70 | 17890 | 17.10 | | 57200 | 258.5 | 70 | 248 | 6.5 |
| | 20210 | 71 | | 17.30 | | | 258.4 | 71 | | |
| | 20490 | 72 | 18500 | 17.50 | | 57700 | 258.2 | 72 | 242 | 5.5 |
| | 20775 | 73 | | 17.65 | | | 258.0 | 73 | | |
| | 21055 | 74 | 19100 | 17.80 | | 58500 | 258.1 | 74 | 244 | 6.0 |
| | 21340 | 75 | | 17.95 | | | 258.1 | 75 | | |
| | 21620 | 76 | 19780 | 18.15 | | 59300 | 258.0 | 76 | 258 | 5.0 |
| | 21905 | 77 | | 18.35 | | | 258.1 | 77 | | |
| | 22185 | 78 | 20420 | 18.20 | | 59500 | 258.2 | 78 | 89 | 4.0 |
| | 22470 | 79 | | 18.95 | | | 258.1 | 79 | | |
| | 22750 | 80 | 20980 | 19.25 | | 59200 | 258.0 | 80 | 81 | 4.0 |
| | 23040 | 81 | | 19.60 | | | 257.9 | 81 | | |
| | 23320 | 82 | 21580 | 19.55 | | 58800 | 258.0 | 82 | 72 | 2.5 |
| | 23600 | 83 | | 20.2 | | | 258.1 | 83 | | |
| | 23880 | 84 | 22200 | 20.4 | | 58500 | 258.2 | 84 | 53 | 2.0 |
| | 24160 | 85 | | 20.7 | | | 258.3 | 85 | | |
| | 24440 | 86 | 22820 | 21.0 | | 58200 | 258.5 | 86 | 43 | 2.0 |

| Slant range (m.) (yds.) | Minute | Rawin ht. above surface (m.) | Elevation angle° Observed | Elevation angle° Smoothed | Distance from observation Point (m.) | Azimuth angle ° | Minute | Direction° 360° = N | Wind Speed (m.p.s.) |
|-------------------------------|--------|------------------------------------|------------------------------|------------------------------|--|-----------------------|--------|------------------------|---------------------------|
| | 106 | | | | | | 106 | | |
| | 107 | | | | | | 107 | | |
| | 108 | | | | | | 108 | | |
| | 109 | | | | | | 109 | | |
| | 110 | | | | | | 110 | | |
| | 111 | | | | | | 111 | | |
| | 112 | | | | | | 112 | | |
| | 113 | | | | | | 113 | | |
| | 114 | | | | | | 114 | | |
| | 115 | | | | | | 115 | | |

*Stamp the following:

1. Name of Station
2. Lat. and long.
3. Local Standard time, _____ meridian
4. El. of S
5. Method of obs., e. rawinson, rawin, p
6. Type of equip., WBRT-5, GMD-1A, GMD-1, SCR-65, theodal

Altitude:
in km., m.

Punched Card Data

| Card No. 3 | | | 15 | Card No. 4 | | |
|------------|---------------------|----------------|--------------|------------|---------------------|----------------|
| Altitude # | Direction (degrees) | Speed (m.p.s.) | Card columns | Altitude # | Direction (degrees) | Speed (m.p.s.) |
| Type of | | | | Type of | | |

| | | | | | | | | |
|-------|-----|-------|-------|--|-------|-------|-----|---------|
| 20210 | 71 | | 17.30 | | | | | |
| 20490 | 72 | 18500 | 17.50 | | 57700 | 258.2 | 72 | 242 5.5 |
| 20775 | 73 | | 17.65 | | | 258.0 | 73 | |
| 21055 | 74 | 19100 | 17.80 | | 58500 | 258.1 | 74 | 244 6.0 |
| 21340 | 75 | | 17.95 | | | 258.1 | 75 | |
| 21620 | 76 | 19780 | 18.15 | | 59300 | 258.0 | 76 | 258 5.0 |
| 21905 | 77 | | 18.35 | | | 258.1 | 77 | |
| 22185 | 78 | 20420 | 18.50 | | 59500 | 258.2 | 78 | 89 4.0 |
| 22470 | 79 | | 18.65 | | | 258.1 | 79 | |
| 22750 | 80 | 20980 | 19.25 | | 59200 | 258.0 | 80 | 81 4.0 |
| 23040 | 81 | | 19.60 | | | 257.9 | 81 | |
| 23320 | 82 | 21580 | 19.85 | | 58800 | 258.0 | 82 | 72 2.5 |
| 23600 | 83 | | 20.2 | | | 258.1 | 83 | |
| 23880 | 84 | 22200 | 20.4 | | 58500 | 258.2 | 84 | 53 2.0 |
| 24160 | 85 | | 20.7 | | | 258.3 | 85 | |
| 24440 | 86 | 22830 | 21.0 | | 58200 | 258.5 | 86 | 49 2.0 |
| 24730 | 87 | | 21.5 | | | 258.6 | 87 | |
| 25010 | 88 | 23470 | 21.8 | | 58000 | 258.6 | 88 | 76 1.5 |
| 25300 | 89 | | 22.1 | | | 258.2 | 89 | |
| 25580 | 90 | 24140 | 22.3 | | 57900 | 258.2 | 90 | 134 3.0 |
| 25860 | 91 | | 22.6 | | | 258.1 | 91 | |
| 26140 | 92 | 24900 | 22.9 | | 57800 | 258.0 | 92 | 158 3.5 |
| 26420 | 93 | | 23.3 | | | 257.8 | 93 | |
| 26700 | 94 | 25640 | 23.6 | | 57800 | 257.6 | 94 | 167 3.5 |
| 26980 | 95 | | 24.0 | | | 257.6 | 95 | |
| 27260 | 96 | 26500 | 24.7 | | 57600 | 257.4 | 96 | 165 3.0 |
| 27540 | 97 | | 24.7 | | | 257.3 | 97 | |
| 27820 | 98 | 27300 | 25.0 | | 57800 | 257.0 | 98 | 167 2.5 |
| 28100 | 99 | | 25.0 | | | 256.9 | 99 | |
| 28380 | 100 | 28100 | 25.5 | | 58000 | 256.2 | 100 | 169 2.5 |
| 28660 | 101 | 288 | | | | | 101 | |
| 28940 | 102 | | | | | | 102 | |
| 29220 | 103 | | | | | | 103 | |
| 29500 | 104 | 28370 | | | | | 104 | |
| 29780 | 105 | | | | | | 105 | |

| | | | | | | | | | | |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Minute | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 |
| Slant range (m.) (yds.) | | | | | | | | | | |

Altitude in km., n

Punched Card Data

| Altitude# | Direction (degrees) | Speed (m.p.s.) | Card columns | Altitude# | Direction (degrees) | Speed (m.p.s.) |
|-------------------|---------------------|----------------|--------------|-------------------|---------------------|----------------|
| Card No. 3 | | | 15 | Card No. 4 | | |
| Type of equipment | 8 | | 16 | Type of equipment | 8 | |
| 19 241 | 5 | | 17-21 31 | | | |
| 20 255 | 5 | | 22-26 32 | | | |
| 21 84 | 4 | | 27-31 33 | | | |
| 22 68 | 2 | | 32-36 34 | | | |
| 23 48 | 2 | | 37-41 35 | | | |
| 24 94 | 2 | | 42-46 36 | | | |
| 25 152 | 3 | | 47-51 37 | | | |
| 26 167 | 4 | | 52-56 38 | | | |
| 27 166 | 3 | | 57-61 39 | | | |
| 28 169 | 3 | | 62-66 40 | | | |
| 29 | | | 67-71 41 | | | |
| 30 | | | 72-76 42 | | | |

Maximum Wind Speed Data

| | | |
|--|--|--|
| Min. alt. wind speed 45 m.p.s. or more (m.) | | |
| Alt. of maximum wind speed (m.) | | |
| Dir. (degrees) and speed (m.p.s.) of Max. wind | | |
| Max. alt. wind speed 45 m.p.s. or more (m.) | | |

amp the
following:
Name of
Station
Lat. and
long.
Local
Standard
time, _____
meridian
El. of Station
Method of
obs., e.g.,
rawinsonde,
rawln, pibal
Type of
equip., e.g.,
WBRT-57,
GMD-1A,
GMD-1,
SCR-658,
theodolite

Termination
Alt. for
150 & 300 m.
are with
respect to
ground, alt.
for other
standard levels
are in km., msl.

*Identification

COLUMBIA, MO.
33° 58' N 92° 22' W
LST-004 Meridian El. 238
Rawinsonde WBRT-57

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

WINDS-ALOFT COMPUTATION SHEET
(LANDSTATION FORM)
WBAN-20

Actual
time
th mer.
Scheduled
(G.M.T.)
Year Month Day
1964 SEP 6
Ascension No. 927

Type of balloon 600 G

Orientation, 360° = South

Rawinsonde Time-Altitude Data

| Slant range (m.) (yds.) | Pibal ht. above sfc. (m.) 30 gram 100 gram | Minute | Rawin ht. above surface (m.) | Elevation angle ° | | Distance from observation point (m.) | Azimuth angle ° | Minute | Wind | |
|-------------------------------|--|--------|---------------------------------------|-------------------|----------|---|-----------------------|--------|--------------------------------------|--------------------------|
| | | | | Observed | Smoothed | | | | Direction ° 360° = N. sfc. 130 | Speed (m.p.s.) 3.1 |
| | 216 | 1 | 240 | 213 | | 620 | 155.2 | 1 | 170 | 12.4 |
| | 350 | | | | | | | | | |
| | 414 | 2 | 320 | 18.65 | | 1450 | 169.6 | 2 | 189 | 14.8 |
| | 570 | | | | | | | | | |
| | 612 | 3 | 230 | 17.65 | | 2280 | 178.2 | 3 | 199 | 13.0 |
| | 980 | | | | | | | | | |
| | 801 | 4 | 960 | 18.15 | | 2920 | 185.1 | 4 | 214 | 10.4 |
| | 1285 | | | | | | | | | |
| | 990 | 5 | 1170 | 19.90 | | 3400 | 190.2 | 5 | 221 | 10.2 |
| | 1585 | | | | | | | | | |
| | 1170 | 6 | 1390 | 19.20 | | 4000 | 195.6 | 6 | 224 | 11.4 |
| | 1880 | | | | | | | | | |
| | 1350 | 7 | 1620 | 19.55 | | 4600 | 199.8 | 7 | 227 | 11.1 |
| | 2170 | | | | | | | | | |
| | 1530 | 8 | 1860 | 19.75 | | 5200 | 203.3 | 8 | 229 | 11.3 |
| | 2455 | | | | | | | | | |
| | 1710 | 9 | 2100 | 19.65 | | 5800 | 206.4 | 9 | 228 | 12.5 |
| | 2740 | | | | | | | | | |
| | 1890 | 10 | 2310 | 19.40 | | 6600 | 208.6 | 10 | 227 | 12.3 |
| | 3020 | | | | | | | | | |
| | 2070 | 11 | 2530 | 19.10 | | 7300 | 210.8 | 11 | 232 | 12.6 |
| | 3300 | | | | | | | | | |
| | 2280 | 12 | 2780 | 19.10 | | 8000 | 212.9 | 12 | 235 | 12.4 |
| | 3580 | | | | | | | | | |
| | 2430 | 13 | 3020 | 19.05 | | 8700 | 214.8 | 13 | 234 | 11.9 |
| | 3855 | | | | | | | | | |
| | 2610 | 14 | 3250 | 19.05 | | 9350 | 216.0 | 14 | 229 | 13.0 |
| | 4130 | | | | | | | | | |
| | 2790 | 15 | 3500 | 18.80 | | 10250 | 216.8 | 15 | 219 | 15.2 |
| | 4405 | | | | | | | | | |
| | 2970 | 16 | 3720 | 18.50 | | 11200 | 216.5 | 16 | 216 | 14.4 |
| | 4675 | | | | | | | | | |
| | 3160 | 17 | 3940 | 18.15 | | 12050 | 216.5 | 17 | 222 | 12.1 |
| | 4945 | | | | | | | | | |
| | 3350 | 18 | 4200 | 18.40 | | 12650 | 217.3 | 18 | 239 | 11.6 |
| | 5215 | | | | | | | | | |
| | 3510 | 19 | 4460 | 18.50 | | 13300 | 218.7 | 19 | 245 | 10.6 |
| | 5485 | | | | | | | | | |
| | 3700 | 20 | 4740 | 18.20 | | 13800 | 219.7 | 20 | 251 | 9.6 |
| | 5765 | | | | | | | | | |
| | 3890 | 21 | 5020 | 18.10 | | 14300 | 221.1 | 21 | 262 | 10.0 |
| | 6045 | | | | | | | | | |
| | 4080 | 22 | 5240 | 18.50 | | 14750 | 222.7 | 22 | 268 | 10.4 |
| | 6305 | | | | | | | | | |
| | 4270 | 23 | 5510 | 19.80 | | 15200 | 224.5 | 23 | 260 | 11.4 |
| | 6565 | | | | | | | | | |
| | 4460 | 24 | | | | | | 24 | 262 | 10.0 |
| | 6825 | | | | | | | | | |
| | 4650 | 25 | | | | | | 25 | 262 | 10.4 |
| | 7085 | | | | | | | | | |
| | 4840 | 26 | | | | | | 26 | 262 | 10.4 |
| | 7345 | | | | | | | | | |
| | 5030 | 27 | | | | | | 27 | 262 | 10.4 |
| | 7605 | | | | | | | | | |
| | 5220 | 28 | | | | | | 28 | 262 | 10.4 |
| | 7865 | | | | | | | | | |
| | 5410 | 29 | | | | | | 29 | 262 | 10.4 |
| | 8125 | | | | | | | | | |
| | 5600 | 30 | | | | | | 30 | 262 | 10.4 |
| | 8385 | | | | | | | | | |
| | 5790 | 31 | | | | | | 31 | 262 | 10.4 |
| | 8645 | | | | | | | | | |
| | 5980 | 32 | | | | | | 32 | 262 | 10.4 |
| | 8905 | | | | | | | | | |
| | 6170 | 33 | 8110 | 19.25 | | 23500 | 225.4 | 33 | 262 | 10.4 |
| | 9165 | | | | | | | | | |
| | 6360 | 34 | | 19.08 | | | 230.8 | 34 | 254 | 14.5 |
| | 9425 | | | | | | | | | |
| | 6550 | 35 | 8650 | 19.00 | | 24400 | 231.6 | 35 | | |
| | 9685 | | | | | | | | | |
| | 6740 | 36 | | 19.00 | | | 231.6 | 36 | 256 | 13.0 |

| Contact | Pressure (mb.) | Altitude (m., m.s.l.) | Elapsed time (min.) |
|---------|-------------------|--------------------------|------------------------|
| 5 | 986 | 238 | 0.0 |
| 10 | 942 | 600 | |
| 15 | 878 | 1260 | 4.0 |
| 20 | 817 | 1850 | 7.0 |
| 25 | 758 | 2470 | 9.0 |
| 30 | 702 | 3110 | 12.0 |
| 35 | 648 | 3740 | 15.0 |
| 40 | 598 | 4420 | 18.0 |
| 45 | 549 | 5100 | 20.0 |
| 50 | 502 | 5800 | 23.0 |
| 55 | 459 | 6490 | 26.0 |
| 60 | 417 | 7210 | 28.0 |
| 65 | 379 | 7890 | 31.0 |
| 70 | 342 | 8620 | 34.0 |
| 75 | 307 | 9390 | 37.0 |
| 80 | 275 | 10150 | 39.0 |
| 85 | 244 | 11000 | 42.0 |
| 90 | 216 | 11800 | 45.0 |
| 95 | 190 | 12600 | 48.0 |
| 100 | 167 | 13400 | 52.0 |
| 105 | 144 | 14300 | 55.0 |
| 110 | 123 | 15220 | 58.0 |
| 115 | 105 | 16220 | 62.0 |
| 120 | 88 | 17250 | 65.0 |
| 125 | 72 | 18410 | 69.0 |
| 130 | 57 | 19920 | 74.0 |
| 135 | 42 | 21500 | 80.0 |
| 140 | 28 | 23100 | 86.0 |
| 145 | 15 | 24700 | 92.0 |
| 150 | 3 | 26300 | 98.0 |

Punched Card Data

| Altitude | Direction (degrees) | Speed (m.p.s.) | Card columns | Altitude | Direction (degrees) | Speed (m.p.s.) |
|------------|------------------------|-------------------|-----------------|------------|------------------------|-------------------|
| Card No. 1 | | | 15 | Card No. 2 | | |
| Type of | | | 16 | Type of | | |

Computer: C. PAPALIS
 Verifier: M. L. ANTHONY

| | | | | | | | | |
|------|----|-------|-------|-------|-------|----|-----|------|
| 5485 | 19 | 22400 | 18.50 | 15200 | 224.5 | 19 | 245 | 10.0 |
| 3690 | 20 | 4710 | 18.00 | 13800 | 217.7 | 20 | 251 | 9.6 |
| 6756 | 21 | 4950 | 17.10 | 14300 | 221.1 | 21 | 262 | 10.0 |
| 3670 | 22 | 5240 | 19.50 | 14750 | 222.7 | 22 | 268 | 10.4 |
| 6025 | 23 | 5510 | 19.90 | 15200 | 224.5 | 23 | 260 | 11.4 |
| 4080 | 24 | 5800 | 19.00 | 15900 | 225.6 | 24 | 239 | 12.5 |
| 6296 | 25 | 6020 | 17.50 | 16500 | 225.9 | 25 | 232 | 15.5 |
| 4230 | 26 | 6300 | 17.45 | 17300 | 226.4 | 26 | 232 | 16.0 |
| 6666 | 27 | 6590 | 17.35 | 18200 | 226.5 | 27 | | |
| 4410 | 28 | | 17.30 | | 227.2 | 28 | 241 | 11.5 |
| 6835 | 29 | 7040 | 19.25 | 20000 | 227.6 | 29 | | |
| 4590 | 30 | | 19.15 | | 228.1 | 30 | 241 | 15.0 |
| 7105 | 31 | 7600 | 19.18 | 21750 | 228.6 | 31 | | |
| 4770 | 32 | | 19.10 | | 229.2 | 32 | 248 | 14.0 |
| 7375 | 33 | 8110 | 19.05 | 23300 | 229.9 | 33 | | |
| 4950 | 34 | | 19.05 | | 230.8 | 34 | 254 | 14.5 |
| 7645 | 35 | 8650 | 19.00 | 24900 | 231.6 | 35 | | |
| 5150 | 36 | | 18.90 | | 232.3 | 36 | 256 | 13.0 |
| 7915 | 37 | 9170 | 18.95 | 26500 | 232.9 | 37 | | |
| 5310 | 38 | | 19.00 | | 233.5 | 38 | 257 | 11.0 |
| 8185 | 39 | 9030 | 19.00 | 27700 | 234.2 | 39 | | |
| 5490 | 40 | | 19.20 | | 234.8 | 40 | 260 | 14.0 |
| 8455 | 41 | 10230 | 19.10 | 29200 | 235.2 | 41 | | |
| 6670 | 42 | | 19.05 | | 236.3 | 42 | 270 | 11.5 |
| 8730 | 43 | 10780 | 19.05 | 30300 | 237.1 | 43 | | |
| 5850 | 44 | | 19.10 | | 238.0 | 44 | 276 | 12.5 |
| 9005 | 45 | 11300 | 19.60 | 31500 | 238.9 | 45 | | |
| 6030 | 46 | | 19.70 | | 239.4 | 46 | 282 | 13.0 |
| 9285 | 47 | 11830 | 19.70 | 32750 | 240.8 | 47 | | |
| 6210 | 48 | | 19.65 | | 241.6 | 48 | 271 | 15.0 |
| 9565 | 49 | 12330 | 19.66 | 34300 | 242.4 | 49 | | |
| 6390 | 50 | | 19.15 | | 243.3 | 50 | 273 | 19.5 |
| 9850 | | | | | | | | |

| | | | |
|-----|-----|-------|------|
| 105 | 144 | 74000 | 55.5 |
| 110 | 123 | 15270 | 58.7 |
| 115 | 105 | 16220 | 62.0 |
| 120 | 88 | 17280 | 65.5 |
| 125 | 72 | 18480 | 69.6 |
| 130 | 57 | 19930 | 74.4 |
| 135 | 43 | 21770 | 80.0 |
| 140 | 28 | | |
| 145 | 13 | | |
| | | | |
| | | | |
| | | | |
| | | | |
| 376 | 34 | 23267 | 83.8 |

| Punched Card Data | | | | | | | | | |
|-------------------|-----|---------------------|----------------|--------------|-------------------|----|---------------------|----------------|--|
| Card No. 1 | | | 15 | Card No. 2 | | | | | |
| Altitude # | | Direction (degrees) | Speed (m.p.s.) | Card columns | Altitude # | | Direction (degrees) | Speed (m.p.s.) | |
| Type of equipment | | | 8 | 16 | Type of equipment | | | | |
| sfc. | 130 | 3 | 17-21 | 7 | 240 | 12 | | | |
| 150 M. | 158 | 10 | 22-26 | 8 | 246 | 14 | | | |
| 300 M. | 173 | 13 | 27-31 | 9 | 255 | 15 | | | |
| 0.5 | 168 | 13 | 32-36 | 10 | 258 | 12 | | | |
| 1.0 | 200 | 13 | 37-41 | 11 | 274 | 17 | | | |
| 1.5 | 227 | 10 | 42-46 | 12 | 270 | 14 | | | |
| 2.0 | 228 | 11 | 47-51 | 13 | 275 | 15 | | | |
| 2.5 | 228 | 13 | 52-56 | 14 | 270 | 15 | | | |
| 3 | 234 | 12 | 57-61 | 15 | 252 | 15 | | | |
| 4 | 217 | 14 | 62-66 | 16 | 248 | 15 | | | |
| 5 | 249 | 10 | 67-71 | 17 | 246 | 15 | | | |
| 6 | 243 | 12 | 72-76 | 18 | 302 | 15 | | | |

Identification

COLUMBIA, MO.
38° 53' N 92° 22' W
LST-90th Meridian El. 238
Rawinsonde WBRT-57

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

WINDS-ALOFT COMPUTATION SHEET
(LAND STATION FORM)

WBAN-20

| | Year | Month | Day | Time |
|------------------------|------|-------|-----|------|
| Actual time th mer. | 1964 | SEP | 6 | 0515 |
| Scheduled (G.M.T.) | 1964 | SEP | 6 | 12 |
| Ascension No. | 927 | | | |

Page

2

| Slant range (M.) (yds.) | Pibal ht. above sfc. (m.) | Minute | Rawin ht. above surface (m.) | Elevation angle° | | Distance from observation point (m.) | Azimuth angle ° | Minute | Wind | |
|----------------------------|---------------------------------|--------|---------------------------------------|------------------|----------|---|-----------------------|--------|-----------------------|-------------------|
| | 100- gram | | | Observed | Smoothed | | | | Direction° 360°= N | Speed (m.p.s.) |
| | 14570 | 51 | 12960 | 19.4 | | 36400 | 244.3 | 51 | | |
| | 14860 | 52 | | 19.35 | | | 245.1 | 52 | 270 | 16.0 |
| | 15145 | 53 | 13400 | 19.25 | | 38100 | 245.5 | 53 | | |
| | 15425 | 54 | 13720 | 19.25 | | 39200 | 24.0 | 54 | 270 | 17.0 |
| | 15705 | 55 | 13980 | 19.0 | | 40200 | 24.8 | 55 | | |
| | 15985 | 56 | 14280 | 18.9 | | 41200 | 24.72 | 56 | 262 | 18.7 |
| | 16265 | 57 | | 18.7 | | | 247.5 | 57 | | |
| | 16545 | 58 | 14860 | 18.6 | | 43600 | 247.7 | 58 | 247 | 17.0 |
| | 16825 | 59 | | 18.6 | | | 247.6 | 59 | | |
| | 17105 | 60 | 15430 | 18.6 | | 45300 | 247.3 | 60 | 238 | 12.6 |
| | 17385 | 61 | | 18.5 | | | 246.9 | 61 | | |
| | 17670 | 62 | 16000 | 18.5 | | 46800 | 247.2 | 62 | 269 | 10.7 |
| | 17950 | 63 | | 18.76 | | | 247.6 | 63 | | |
| | 18235 | 64 | 16560 | 18.85 | | 47800 | 248.4 | 64 | 294 | 12.4 |
| | 18515 | 65 | | 18.90 | | | 249.1 | 65 | | |
| | 18795 | 66 | 17240 | 19.20 | | 48800 | 249.8 | 66 | 301 | 8.3 |
| | 19080 | 67 | | 19.55 | | | 250.0 | 67 | | |
| | 19360 | 68 | 17870 | 19.80 | | 49000 | 250.0 | 68 | 301 | 2.5 |
| | 19645 | 69 | | 20.1 | | | 250.0 | 69 | | |
| | 19925 | 70 | 18470 | 20.4 | | 49200 | 253.2 | 70 | 224 | 2.0 |
| | 20210 | 71 | | 20.6 | | | 250.0 | 71 | | |
| | 20490 | 72 | 19080 | 20.9 | | 49500 | 249.6 | 72 | 197 | 5.5 |
| | 20775 | 73 | | 21.1 | | | 249.2 | 73 | | |
| | 21055 | 74 | 19720 | 21.3 | | 49800 | 249.1 | 74 | 185 | 5.0 |
| | 21340 | 75 | | 21.5 | | | 248.6 | 75 | | |
| | 21620 | 76 | 20300 | 21.8 | | 50100 | 248.5 | 76 | 179 | 4.0 |
| | 21905 | 77 | | 22.0 | | | 248.4 | 77 | | |
| | 22185 | 78 | 20930 | 22.4 | | 50200 | 248.0 | 78 | 156 | 3.5 |
| | 22470 | 79 | | 22.7 | | | 247.7 | 79 | | |
| | 22750 | 80 | 21554 | 23.0 | | 50200 | 247.5 | 80 | 148 | 1.5 |
| | 23040 | 81 | | 23.3 | | | 247.5 | 81 | | |
| | 23320 | 82 | 22240 | 23.7 | | 50200 | 247.5 | 82 | 66 | 2.5 |
| | 23600 | 83 | 22600 | 24.0 | | 50000 | 247.7 | 83 | | |
| | 23880 | 84 | | | | | | 84 | | |
| | 24160 | 85 | | | | | | 85 | | |

| Wind Direction° 360°= N | Speed (m.p.s.) | Minute | Azimuth angle ° | Distance from observation Point (m.) | Elevation angle° Observed | Smoothed | Rawin ht. above surface (m.) | Minute | Slant range (m.) (yds.) |
|-------------------------------|-------------------|--------|-----------------------|---|------------------------------|----------|------------------------------------|--------|-------------------------------|
| | | 106 | | | | | | 106 | |
| | | 107 | | | | | | 107 | |
| | | 108 | | | | | | 108 | |
| | | 109 | | | | | | 109 | |
| | | 110 | | | | | | 110 | |
| | | 111 | | | | | | 111 | |
| | | 112 | | | | | | 112 | |
| | | 113 | | | | | | 113 | |
| | | 114 | | | | | | 114 | |
| | | 115 | | | | | | 115 | |

*Stamp the
following:

1. Name of Station
2. Lat. and long.
3. Local Standard time, meridian
4. El. of S.
5. Method obs., e. rawinsonde, rawin, p.
6. Type of equip., WBRT-5, GMD-1A, GMD-1, SCR-65, theodolite

*Altitude
in km., m.

Punched Card Data

| Altitude# | Direction (degrees) | Speed (m.p.s.) | Card columns | Altitude# | Direction (degrees) | Speed (m.p.s.) |
|------------|------------------------|-------------------|-----------------|------------|------------------------|-------------------|
| Card No. 3 | | | 15 | Card No. 4 | | |

| | | | | | | | | | |
|-------|-----|-------|-------|--|-------|-------|-----|-----|-----|
| 19360 | 68 | 11870 | 19.00 | | | 2300 | 69 | | |
| 19645 | 69 | | 20.1 | | | | | | |
| 19925 | 70 | 15470 | 20.4 | | 49200 | 2332 | 70 | 224 | 2.0 |
| 20210 | 71 | | 20.6 | | | 2500 | 71 | | |
| 20490 | 72 | 19080 | 20.9 | | 49500 | 249.6 | 72 | 197 | 5.5 |
| 20771 | 73 | | 21.1 | | | 249.2 | 73 | | |
| 21055 | 74 | 19790 | 21.3 | | 49800 | 249.1 | 74 | 185 | 5.0 |
| 21340 | 75 | | 21.5 | | | 248.6 | 75 | | |
| 21620 | 76 | 20700 | 21.8 | | 50100 | 248.5 | 76 | 179 | 4.0 |
| 21905 | 77 | | 22.0 | | | 248.4 | 77 | | |
| 22185 | 78 | 20930 | 22.4 | | 50200 | 248.0 | 78 | 156 | 3.5 |
| 22470 | 79 | | 22.7 | | | 247.7 | 79 | | |
| 22750 | 80 | 21554 | 23.0 | | 50200 | 247.5 | 80 | 148 | 1.5 |
| 23040 | 81 | | 23.3 | | | 247.5 | 81 | | |
| 23320 | 82 | 22240 | 23.7 | | 50200 | 247.5 | 82 | 66 | 2.5 |
| 23600 | 83 | 22600 | 24.0 | | 50000 | 247.7 | 83 | | |
| 23880 | 84 | | | | | | 84 | | |
| 24160 | 85 | | | | | | 85 | | |
| 24440 | 86 | 22475 | | | | | 86 | | |
| 24730 | 87 | | | | | | 87 | | |
| 25010 | 88 | | | | | | 88 | | |
| 25300 | 89 | | | | | | 89 | | |
| 25580 | 90 | | | | | | 90 | | |
| 25860 | 91 | | | | | | 91 | | |
| 26140 | 92 | | | | | | 92 | | |
| 26420 | 93 | | | | | | 93 | | |
| 26700 | 94 | | | | | | 94 | | |
| 26980 | 95 | | | | | | 95 | | |
| 27260 | 96 | | | | | | 96 | | |
| 27540 | 97 | | | | | | 97 | | |
| 27820 | 98 | | | | | | 98 | | |
| 28100 | 99 | | | | | | 99 | | |
| 28380 | 100 | | | | | | 100 | | |
| 28660 | 101 | | | | | | 101 | | |
| 28940 | 102 | | | | | | 102 | | |
| 29220 | 103 | | | | | | 103 | | |
| 29500 | 104 | | | | | | 104 | | |
| 29760 | 105 | | | | | | 105 | | |

| | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|--|--|--|--|--|--|
| Row in ht. above surface (m.) | | | | | | | | | | | | | | | | | | | | |
| Minute | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | | | | | | | | | | |
| Slant range (m.) (yds.) | | | | | | | | | | | | | | | | | | | | |

Altitude:
in km., n

Punched Card Data

| Altitude# | Direction (degrees) | Speed (m.p.s.) | Card columns | Altitude# | Direction (degrees) | Speed (m.p.s.) |
|----------------------|------------------------|-------------------|-----------------|----------------------|------------------------|-------------------|
| Card No. 3 | | | 15 | Card No. 4 | | |
| Type of equipment | 8 | | 16 | Type of equipment | 2 | |
| 19 | 213 | 4 | 17- 21 | 31 | | |
| 20 | 186 | 5 | 22- 26 | 32 | | |
| 21 | 11.1 | 4 | 27- 31 | 33 | | |
| 22 | 133 | 2 | 32- 36 | 34 | | |
| 23 | | | 37- 41 | 35 | | |
| 24 | | | 42- 46 | 36 | | |
| 25 | | | 47- 51 | 37 | | |
| 26 | | | 52- 56 | 38 | | |
| 27 | | | 57- 61 | 39 | | |
| 28 | | | 62- 66 | 40 | | |
| 29 | | | 67- 71 | 41 | | |
| 30 | | | 72- 76 | 42 | | |

Maximum Wind Speed Data

| | | |
|---|--|--|
| Min. alt. wind speed 45 m.p.s. or more (m.) | | |
| Alt. of maximum wind speed (m.) | | |
| Dir. (degrees) and speed (m.p.s.) of Max. wind | | |
| Max. alt. wind speed 45 m.p.s. or more (m.) | | |

camp the
following:
Name of
Station
Lat. and
long.
Local
Standard
time, 90th
meridian
El. of Station
Method of
obs., e.g.,
rawinsonde,
rowin, pibal
Type of
equip., e.g.,
WBRT-57,
GMD-1A,
GMD-1,
SCR-658,
theodolite

Termination
Alt. for
150 & 300 m.
are with
respect to
ground, alt.
for other
standard levels
are in km., msl.

| *Identification | | | | | | | | | | U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU | | Year Month Day Time | | | |
|---|--|--------|---------------------------------------|-------------------|----------|---|-----------------------|--------|--------------------------|--|--------------|---|--------------------------|------------------------|--|
| COLUMBIA, MO. 38° 58' N 92° 22' W LST-90th Meridian El. 238 Rawinsonde WBRT-57 | | | | | | | | | | WINDS-ALOFT COMPUTATION SHEET (LANDSTATION FORM) WBAN-20 | | 1964 SEP 6 1715 1964 SEP 7 00 Ascension No. 929 | | | |
| Type of balloon 6007P | | | | | | | | | | Orientation, 360° = South | | Rawinsonde Time-Altitude Data | | | |
| Slant range (m.) (yds.) | Pibal ht. above sfc. (m.) 30 gram 100 gram | Minute | Rawin ht. above surface (m.) | Elevation angle ° | | Distance from observation point (m.) | Azimuth angle ° | Minute | Wind | | Con- tact | Pressure (mb.) | Altitude (m., m.s.l.) | Elapsed time (min.) | |
| | | | | Observed | Smoothed | | | | Direction ° 360° = N. | Speed (m.p.s.) | | | | | |
| | 216 | 1 | 210 | 23.1 | | 490 | 180.6 | 1 | 183 | 7.5 | 6.5 | 984 | 238 | 0.0 | |
| | 350 | | | | | | | | | | 10 | 942 | 630 | 1.9 | |
| | 414 | 2 | 460 | 25.7 | | 950 | 185.2 | 2 | 182 | 7.3 | 15 | 897 | 1250 | 4.4 | |
| | 670 | | | | | | | | | | 20 | 814 | 1870 | 7.0 | |
| | 612 | 3 | 700 | 26.7 | | 1390 | 112.1 | 3 | 199 | 7.7 | 25 | 754 | 2530 | 9.8 | |
| | 980 | | | | | | | | | | 30 | 697 | 3160 | 12.8 | |
| | 801 | 4 | 980 | 27.7 | | 1860 | 180.5 | 4 | 178 | 7.4 | 35 | 642 | 3840 | 15.8 | |
| | 1285 | | | | | | | | | | 40 | 590 | 4530 | 18.7 | |
| | 990 | 5 | 1210 | 28.4 | | 2220 | 180.3 | 5 | 174 | 7.0 | 45 | 539 | 5260 | 21.7 | |
| | 1585 | | | | | | | | | | 50 | 491 | 6000 | 25.2 | |
| | 1170 | 6 | 1480 | 27.6 | | 2720 | 178.7 | 6 | 177 | 8.0 | 55 | 446 | 6730 | 28.2 | |
| | 1880 | | | | | | | | | | 60 | 403 | 7540 | 31.4 | |
| | 1350 | 7 | 1690 | 27.4 | | 3240 | 179.3 | 7 | 180 | 8.2 | 65 | 361 | 8360 | 34.7 | |
| | 2170 | | | | | | | | | | 70 | 324 | 9160 | 38.0 | |
| | 1530 | 8 | 1920 | 27.8 | | 3610 | 179.2 | 8 | 180 | 7.0 | 75 | 287 | 10000 | 41.6 | |
| | 2455 | | | | | | | | | | 80 | 253 | 10880 | 45.0 | |
| | 1710 | 9 | 2180 | 28.9 | | 3910 | 179.5 | 9 | 183 | 6.1 | 85 | 222 | 11740 | 48.2 | |
| | 2740 | | | | | | | | | | 90 | 194 | 12600 | 52.7 | |
| | 1890 | 10 | 2400 | 29.2 | | 4290 | 181.7 | 10 | 186 | 6.3 | 95 | 168 | 13500 | 56.3 | |
| | 3020 | | | | | | | | | | 100 | 143 | 14500 | 60.1 | |
| | 2070 | 11 | 2680 | 29.6 | | 4670 | 180.7 | 11 | 183 | 5.8 | 105 | 122 | 15480 | 64.1 | |
| | 3300 | | | | | | | | | | 110 | 102 | 16580 | 67.9 | |
| | 2250 | 12 | 2900 | 29.7 | | 4970 | 180.3 | 12 | 188 | 4.0 | 115 | 85 | 17650 | 71.9 | |
| | 3580 | | | | | | | | | | 120 | 70 | 18860 | 76.0 | |
| | 2430 | 13 | 3120 | 31.4 | | 5100 | 181.6 | 13 | 199 | 2.3 | 125 | 56 | 20240 | 81.5 | |
| | 3855 | | | | | | | | | | 130 | 43 | 21950 | 87.6 | |
| | 2610 | 14 | 3360 | 33.2 | | 5200 | 181.7 | 14 | 262 | 1.5 | 135 | 31 | 24100 | 95.1 | |
| | 4130 | | | | | | | | | | 140 | 19 | 27400 | 106.0 | |
| | 2790 | 15 | 3580 | 35.0 | | 5100 | 183.3 | 15 | 276 | 3.8 | | | | | |
| | 4405 | | | | | | | | | | | | | | |
| | 2970 | 16 | 3790 | 36.7 | | 5000 | 186.6 | 16 | 262 | 4.2 | | | | | |
| | 4676 | | | | | | | | | | | | | | |
| | 3150 | 17 | 4000 | 37.2 | | 5250 | 184.5 | 17 | 241 | 6.4 | | | | | |
| | 4945 | | | | | | | | | | | | | | |
| | 3330 | 18 | 4240 | 37.6 | | 5550 | 191.2 | 18 | 241 | 6.5 | | | | | |
| | 5216 | | | | | | | | | | | | | | |
| | 3510 | 19 | 4480 | 38.2 | | 5700 | 194.6 | 19 | 249 | 6.0 | | | | | |
| | 5485 | | | | | | | | | | | | | | |
| | 3690 | 20 | 4720 | 38.3 | | 6000 | 197.2 | 20 | 237 | 6.2 | | | | | |
| | 5756 | | | | | | | | | | | | | | |
| | 3870 | 21 | 4950 | 38.3 | | 6300 | 199.1 | 21 | 232 | 6.2 | | | | | |
| | 6025 | | | | | | | | | | | | | | |
| | 4080 | 22 | 5190 | 38.2 | | 6550 | 200.2 | 22 | 225 | 6.0 | | | | | |
| | 6298 | | | | | | | | | | | | | | |
| | 4230 | 23 | 5430 | 38.1 | | 6950 | 201.4 | 23 | 222 | 6.4 | | | | | |
| | 6565 | | | | | | | | | | | | | | |
| | 4410 | 24 | 5670 | 37.7 | | 7400 | 202.7 | 24 | 225 | 7.2 | | | | | |
| | 6835 | | | | | | | | | | | | | | |
| | 4590 | 25 | 5900 | 37.6 | | 7750 | 204.3 | 25 | 234 | 6.0 | | | | | |
| | 7105 | | | | | | | | | | | | | | |
| | 4770 | 26 | 6120 | 37.7 | | 7950 | 205.2 | 26 | 240 | 6.0 | | | | | |
| | 7375 | | | | | | | | | | | | | | |
| | 4950 | 27 | 6350 | 37.6 | | 8300 | 207.8 | 27 | 232 | 6.8 | | | | | |
| | 7645 | | | | | | | | | | | | | | |
| | 5130 | 28 | 6580 | 37.1 | | 8700 | 208.2 | 28 | 226 | 7.6 | | | | | |
| | 7915 | | | | | | | | | | | | | | |
| | 5310 | 29 | 6800 | 36.6 | | 9200 | 209.2 | 29 | | | | | | | |
| | 8185 | | | | | | | | | | | | | | |
| | 5490 | 30 | | 36.2 | | | 210.5 | 30 | 235 | 8.0 | | | | | |
| | 8455 | | | | | | | | | | | | | | |
| | 5670 | 31 | 7300 | 35.9 | | 10100 | 211.8 | 31 | | | | | | | |
| | 8730 | | | | | | | | | | | | | | |
| | 5850 | 32 | | 35.6 | | | 213.4 | 32 | 243 | 9.0 | | | | | |
| | 9005 | | | | | | | | | | | | | | |
| | 6030 | 33 | 7780 | 35.1 | | 11000 | 215.0 | 33 | | | | | | | |
| | 9285 | | | | | | | | | | | | | | |
| | 6210 | 34 | | 34.5 | | | 216.7 | 34 | 243 | 12.0 | | | | | |
| | 9565 | | | | | | | | | | | | | | |
| | 6390 | 35 | 8920 | 33.4 | | 12300 | 218.4 | 35 | | | | | | | |

Punched Card Data

| Altitude # | Direction (degrees) | Speed (m.p.s.) | Card columns | Altitude # | Direction (degrees) | Speed (m.p.s.) |
|------------|---------------------|----------------|--------------|------------|---------------------|----------------|
| 143 | 17 | 29.28 | 114.6 | | | |

Termination
Alt. for
150 & 300 m.
are with
respect to
ground, alt.
for other
standard levels
are in km., msl.

By *W. L. T.*

Computer A. R. Brown

Verifier:

| | | | | | | | | |
|-------|----|-------|------|-------|-------|----|-----|------|
| 3180 | 17 | 4300 | 37.0 | 5550 | 191.2 | 18 | 241 | 65 |
| 4945 | | | | | | | | |
| 3330 | 18 | 4340 | 37.6 | 5550 | 191.2 | 18 | 241 | 65 |
| 5215 | | | | | | | | |
| 3510 | 19 | 4450 | 38.2 | 5700 | 194.6 | 19 | 247 | 60 |
| 5485 | | | | | | | | |
| 3690 | 20 | 4720 | 38.3 | 6000 | 197.2 | 20 | 237 | 62 |
| 5755 | | | | | | | | |
| 3870 | 21 | 4950 | 38.3 | 6300 | 199.1 | 21 | 232 | 62 |
| 6025 | | | | | | | | |
| 4050 | 22 | 5170 | 38.2 | 6550 | 202.2 | 22 | 225 | 6.0 |
| 6295 | | | | | | | | |
| 4230 | 23 | 5430 | 38.1 | 6910 | 206.4 | 23 | 221 | 6.4 |
| 6565 | | | | | | | | |
| 4410 | 24 | 5620 | 37.7 | 7070 | 207.7 | 24 | 225 | 7.2 |
| 6835 | | | | | | | | |
| 4590 | 25 | 5900 | 37.6 | 7750 | 204.5 | 25 | 234 | 6.0 |
| 7105 | | | | | | | | |
| 4770 | 26 | 6250 | 37.7 | 7910 | 206.2 | 26 | 240 | 6.0 |
| 7375 | | | | | | | | |
| 4950 | 27 | 6350 | 37.6 | 8300 | 207.8 | 27 | 232 | 6.8 |
| 7645 | | | | | | | | |
| 5190 | 28 | 6580 | 37.1 | 8700 | 208.2 | 28 | 226 | 7.6 |
| 7915 | | | | | | | | |
| 5310 | 29 | 6800 | 36.6 | 9200 | 209.2 | 29 | | |
| 8185 | | | | | | | | |
| 5490 | 30 | | 36.2 | | 210.5 | 30 | 235 | 8.0 |
| 8455 | | | | | | | | |
| 5670 | 31 | 7300 | 35.9 | 10100 | 211.8 | 31 | | |
| 8730 | | | | | | | | |
| 5850 | 32 | | 35.6 | | 213.4 | 32 | 243 | 9.0 |
| 9005 | | | | | | | | |
| 6030 | 33 | 7750 | 35.1 | 11000 | 215.0 | 33 | | |
| 9285 | | | | | | | | |
| 6210 | 34 | | 34.5 | | 216.7 | 34 | 243 | 12.0 |
| 9565 | | | | | | | | |
| 6390 | 35 | 8220 | 33.8 | 12300 | 218.4 | 35 | | |
| 9850 | | | | | | | | |
| 6570 | 36 | | 33.1 | | 219.8 | 36 | 245 | 13.6 |
| 10135 | | | | | | | | |
| 6750 | 37 | 8900 | 32.3 | 13750 | 221.1 | 37 | | |
| 10420 | | | | | | | | |
| 6930 | 38 | | 31.5 | | 222.7 | 38 | 246 | 14.4 |
| 10710 | | | | | | | | |
| 7110 | 39 | 9180 | 30.9 | 15300 | 224.3 | 39 | | |
| 11005 | | | | | | | | |
| 7290 | 40 | | 30.2 | | 225.4 | 40 | 237 | 15.0 |
| 11300 | | | | | | | | |
| 7470 | 41 | 9680 | 29.4 | 17100 | 226.0 | 41 | | |
| 11595 | | | | | | | | |
| 7650 | 42 | | 28.7 | | 226.5 | 42 | 237 | 15.5 |
| 11890 | | | | | | | | |
| 7830 | 43 | 10120 | 28.0 | 19000 | 227.0 | 43 | | |
| 12185 | | | | | | | | |
| 8010 | 44 | | 27.4 | | 227.7 | 44 | 238 | 16.5 |
| 12480 | | | | | | | | |
| 8190 | 45 | 10580 | 26.6 | 21000 | 228.4 | 45 | | |
| 12775 | | | | | | | | |
| 8370 | 46 | | 26.0 | | 229.1 | 46 | 242 | 17.5 |
| 13075 | | | | | | | | |
| 8550 | 47 | 11050 | 25.5 | 23000 | 229.9 | 47 | | |
| 13375 | | | | | | | | |
| 8730 | 48 | | 25.1 | | 230.9 | 48 | 244 | 17.0 |
| 13675 | | | | | | | | |
| 8910 | 49 | 11580 | 24.7 | 25000 | 231.5 | 49 | | |
| 13975 | | | | | | | | |
| 9090 | 50 | | 24.3 | | 231.9 | 50 | 245 | 17.5 |
| 14275 | | | | | | | | |

Coded Data for Transmission

| | | | | | | | | | |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PP92445 | 00951 | 2009 | 21814 | 1815 | 41814 | 1715 | 61816 | 1814 | 01812 |
| 1912 | 01809 | 22605 | 42412 | 62412 | 82211 | 02311 | 32315 | 52416 | 02528 |
| 52432 | 02437 | 52525 | 02521 | 32523 | 0 | 92496 | 02512 | 42702 | 80905 |
| 01205 | 21506 | 60204 | 00910 | 00809 | 70607 | 0 | | | |

| | | | |
|-----|-----|-------|-------|
| 100 | 143 | 14500 | 60.1 |
| 105 | 122 | 15410 | 50.1 |
| 110 | 102 | 16580 | 67.8 |
| 115 | 85 | 17650 | 71.9 |
| 120 | 70 | 18860 | 76.4 |
| 125 | 56 | 20240 | 81.5 |
| 130 | 43 | 21950 | 87.6 |
| 135 | 31 | 24100 | 95.1 |
| 140 | 19 | 27400 | 106.0 |
| | | | |
| | | | 8.1 |
| | | | |
| | | | |
| 145 | 17 | 29928 | 114.6 |

Punched Card Data

| Altitude # | Direction (degrees) | Speed (m.p.s.) | Card columns | Altitude # | Direction (degrees) | Speed (m.p.s.) |
|-------------------|---------------------|----------------|--------------|-------------------|---------------------|----------------|
| Card No. 1 | | | 15 | Card No. 2 | | |
| Type of equipment | | 8 | 16 | Type of equipment | | 8 |
| sf. | 210 | 4 | 17-21 | 7 | 229 | 8 |
| 150 M. | 190 | 6 | 22-26 | 8 | 244 | 11 |
| 300 M. | 182 | 7 | 27-31 | 9 | 246 | 14 |
| 0.5 | 184 | 7 | 32-36 | 10 | 236 | 16 |
| 1.0 | 179 | 8 | 37-41 | 11 | 242 | 18 |
| 1.5 | 175 | 7 | 42-46 | 12 | 245 | 18 |
| 2.0 | 179 | 8 | 47-51 | 13 | 245 | 13 |
| 2.5 | 184 | 6 | 52-56 | 14 | 250 | 15 |
| 3 | 185 | 5 | 57-61 | 15 | 254 | 16 |
| 4 | 265 | 4 | 62-66 | 16 | 253 | 16 |
| 5 | 236 | 6 | 67-71 | 17 | 251 | 11 |
| 6 | 229 | 7 | 72-76 | 18 | 255 | 9 |

Maximum Wind Speed Data

| | | |
|---|--|--|
| Min. alt. wind speed 45 m.p.s. or more (m.) | | |
| Alt. of maximum wind speed (m.) | | |
| Dir. (degrees) and speed (m.p.s.) of Max. wind | | |
| Max. alt. wind speed 45 m.p.s. or more (m.) | | |
| Enter check if additional levels appear on reverse side. | | |

Identification

COLUMBIA, MO.
38° 58' N 92° 22' W
LST-90th Meridian El. 238
Rawinsonde WBRT-57

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAUWINDS-ALOFT COMPUTATION SHEET
(LAND STATION FORM)

WBAN-20

Year Month Day Time

Actual time th mer. 1964 SEP 6 1715
Scheduled (G.M.T.) 1964 SEP 7 00

Ascension No. 229

Page
2

| Slant range (M.) (yds.) | Pibal ht. above sfc. (m.) | Minute | Rawin ht. above surface (m.) | Elevation angle ^o | | Distance from observation point (m.) | Azimuth angle ° | Minute | Wind | |
|----------------------------|---------------------------------|--------|---------------------------------------|------------------------------|----------|---|-----------------------|--------|------------------------------------|-------------------|
| | | | | Observed | Smoothed | | | | Direction ^o 360° = N | Speed (m.p.s.) |
| 14570 | 51 | 17040 | 24.0 | | 27900 | 232.3 | 51 | | | |
| 14860 | 52 | | 23.7 | | | 232.7 | 52 | 246 | 14.0 | |
| 15145 | 53 | 17510 | 23.5 | | 28800 | 232.0 | 53 | | | |
| 15425 | 54 | | 23.3 | | | 233.1 | 54 | 246 | 13.0 | |
| 15705 | 55 | 18020 | 23.1 | | 30400 | 232.7 | 55 | | | |
| 15985 | 56 | 18250 | 22.9 | | 31200 | 232.2 | 56 | 248 | 12.5 | |
| 16265 | 57 | 18540 | 22.8 | | 32000 | 231.6 | 57 | | | |
| 16545 | 58 | 18800 | 22.6 | | 32900 | 235.1 | 58 | 250 | 14.5 | |
| 16825 | 59 | | 22.4 | | | 235.5 | 59 | | | |
| 17105 | 60 | 14300 | 22.2 | | 34750 | 236.0 | 60 | 252 | 15.0 | |
| 17385 | 61 | | 22.1 | | | 236.5 | 61 | | | |
| 17670 | 62 | 14500 | 22.1 | | 36100 | 237.0 | 62 | 254 | 11.0 | |
| 17950 | 63 | | 22.1 | | | 237.3 | 63 | | | |
| 18235 | 64 | 15020 | 22.2 | | 37200 | 237.6 | 64 | 256 | 10.5 | |
| 18515 | 65 | | 22.2 | | | 237.8 | 65 | | | |
| 18795 | 66 | 15800 | 22.1 | | 38500 | 238.2 | 66 | 256 | 12.0 | |
| 19080 | 67 | | 22.1 | | | 238.4 | 67 | | | |
| 19360 | 68 | 16020 | 22.0 | | 39950 | 238.5 | 68 | 251 | 10.5 | |
| 19645 | 69 | | 22.0 | | | 239.0 | 69 | | | |
| 19925 | 70 | 16860 | 22.1 | | 41000 | 239.4 | 70 | 252 | 11.0 | |
| 20210 | 71 | | 22.2 | | | 239.5 | 71 | | | |
| 20490 | 72 | 17540 | 22.2 | | 42500 | 239.6 | 72 | 253 | 9.5 | |
| 20775 | 73 | | 22.3 | | | 239.8 | 73 | | | |
| 21055 | 74 | 18020 | 22.4 | | 43300 | 240.2 | 74 | 256 | 6.5 | |
| 21340 | 75 | | 22.6 | | | 240.5 | 75 | | | |
| 21620 | 76 | 18600 | 22.7 | | 44000 | 240.6 | 76 | 254 | 3.5 | |
| 21905 | 77 | | 22.9 | | | 240.3 | 77 | | | |
| 22185 | 78 | 19160 | 23.3 | | 44200 | 240.4 | 78 | 249 | 1.5 | |
| 22470 | 79 | | 23.6 | | | 240.3 | 79 | | | |
| 22750 | 80 | 19700 | 23.7 | | 44400 | 240.3 | 80 | 32 | 1.0 | |
| 23040 | 81 | | 24.1 | | | 240.3 | 81 | | | |
| 23320 | 82 | 20240 | 24.4 | | 44200 | 240.0 | 82 | 79 | 2.5 | |
| 23600 | 83 | | 24.7 | | | 239.6 | 83 | | | |
| 23880 | 84 | 20780 | 25.0 | | 44000 | 239.3 | 84 | 107 | 3.0 | |
| 24160 | 85 | | 25.2 | | | 239.3 | 85 | | | |

| Wind Direction ^o 360° = N | Speed (m.p.s.) |
|--|-------------------|
| 84 | 4.5 |
| 75 | 6.0 |
| 73 | 5.5 |
| 69 | 4.0 |
| 60 | 3.5 |

| Minute | Azimuth angle ° | Distance from observation Point (m.) | Elevation angle ^o Observed | Smoothed | Rawin ht. above surface (m.) | Minute | Slant range (m.) (yds.) |
|--------|-----------------------|---|--|----------|------------------------------------|--------|-------------------------------|
| 106 | 235.9 | 41400 | 33.2 | | 27170 | 106 | |
| 107 | 235.6 | | 34.2 | | | 107 | |
| 108 | 235.3 | 40700 | 34.7 | | 27730 | 108 | |
| 109 | 235.2 | | 35.1 | | | 109 | |
| 110 | 235.3 | 39800 | 35.3 | | 28390 | 110 | |
| 111 | 235.2 | | 35.9 | | | 111 | |
| 112 | 234.9 | 39400 | 36.1 | | 28920 | 112 | |
| 113 | 235.2 | | 36.4 | | | 113 | |
| 114 | 235.4 | 39000 | 36.9 | | 29440 | 114 | |
| 115 | | | | | | 115 | |

| Altitude ^o | Direction (degrees) | Speed (m.p.s.) | Card columns | Altitude ^o | Direction (degrees) | Speed (m.p.s.) |
|-----------------------|------------------------|-------------------|-----------------|-----------------------|------------------------|-------------------|
| Card No. 3 | 15 | | | Card No. 4 | | |

*Stamp the
following:1. Name of
Station2. Lat. and
long.3. Local
Standard
time, —
meridian

4. El. of S

5. Method
obs., c.
rawinsonde,
rawin, p6. Type of
equip.,
WBRT-5
GMD-1A
GMD-1,
SCR-650
theodolite# Altitudes
in km., n

29673

| | | | | | | | | | |
|-------|-----|-------|------|--|-------|-------|-----|-----|------|
| 19645 | 69 | | 22.0 | | 41000 | 239.6 | 69 | | |
| 19925 | 70 | 16860 | 22.1 | | | 239.7 | 70 | 252 | 11.0 |
| 20210 | 71 | | 22.2 | | | 239.8 | 71 | | |
| 20490 | 72 | 17540 | 22.2 | | 42500 | 239.6 | 72 | 253 | 9.5 |
| 20775 | 73 | | 22.3 | | | 239.8 | 73 | | |
| 21055 | 74 | 18020 | 22.4 | | 43300 | 240.2 | 74 | 256 | 6.5 |
| 21340 | 75 | | 22.5 | | | 240.5 | 75 | | |
| 21620 | 76 | 18600 | 22.7 | | 44000 | 240.6 | 76 | 254 | 3.5 |
| 21905 | 77 | | 22.8 | | | 240.5 | 77 | | |
| 22185 | 78 | 19160 | 23.3 | | 44200 | 240.4 | 78 | 249 | 1.5 |
| 22470 | 79 | | 23.6 | | | 240.3 | 79 | | |
| 22750 | 80 | 19700 | 23.7 | | 44400 | 240.3 | 80 | 32 | 1.0 |
| 23040 | 81 | | 24.1 | | | 240.3 | 81 | | |
| 23320 | 82 | 20240 | 24.4 | | 44200 | 240.0 | 82 | 79 | 2.5 |
| 23600 | 83 | | 24.7 | | | 239.6 | 83 | | |
| 23880 | 84 | 20780 | 25.0 | | 44000 | 239.3 | 84 | 107 | 3.0 |
| 24160 | 85 | | 25.2 | | | 239.3 | 85 | | |
| 24440 | 86 | 21300 | 25.5 | | 44200 | 239.4 | 86 | 129 | 3.0 |
| 24730 | 87 | | 25.7 | | | 239.4 | 87 | | |
| 25010 | 88 | 21850 | 26.0 | | 44200 | 239.2 | 88 | 147 | 3.0 |
| 25300 | 89 | | 26.3 | | | 239.0 | 89 | | |
| 25580 | 90 | 22400 | 26.5 | | 44300 | 238.0 | 90 | 76 | 1.0 |
| 25860 | 91 | | 26.9 | | | 237.9 | 91 | | |
| 26140 | 92 | 22940 | 27.2 | | 44200 | 238.1 | 92 | 25 | 2.0 |
| 26420 | 93 | | 27.4 | | | 238.5 | 93 | | |
| 26700 | 94 | 23560 | 28.0 | | 43800 | 238.4 | 94 | 77 | 4.0 |
| 26980 | 95 | | 28.6 | | | 238.1 | 95 | | |
| 27260 | 96 | 24130 | 29.1 | | 43000 | 237.4 | 96 | 94 | 5.0 |
| 27540 | 97 | | 29.5 | | | 236.9 | 97 | | |
| 27820 | 98 | 24720 | 29.9 | | 42600 | 236.9 | 98 | 92 | 4.0 |
| 28100 | 99 | | 30.3 | | | 236.6 | 99 | | |
| 28380 | 100 | 25300 | 30.6 | | 42400 | 236.7 | 100 | 91 | 3.0 |
| 28660 | 101 | | 31.0 | | | 236.8 | 101 | | |
| 28940 | 102 | 25970 | 31.4 | | 42000 | 236.8 | 102 | 70 | 3.0 |
| 29220 | 103 | | 32.1 | | | 236.2 | 103 | | |
| 29500 | 104 | 26540 | 32.3 | | 41800 | 236.0 | 104 | 93 | 4.0 |
| 29780 | 105 | | 33.1 | | | 236.0 | 105 | | |

| | | | | | | |
|------------------------------------|-------|-------|-------|-------|-------|-------|
| Rawin ht. above surface (m.) | 27170 | 27770 | 28370 | 28970 | 29470 | 29670 |
| Minute | 106 | 107 | 108 | 109 | 110 | 111 |
| Slant range (m.) (yds.) | | | | | | |

Altitudes
in km, n

Punched Card Data

| Altitude# | Direction (degrees) | Speed (m.p.s.) | Card columns | Altitude# | Direction (degrees) | Speed (m.p.s.) |
|----------------------|------------------------|-------------------|----------------------|------------|------------------------|-------------------|
| Card No. 3 | | | 15 | Card No. 4 | | |
| Type of equipment | 8 | 16 | Type of equipment | 8 | | |
| 19 | 253 | 3 | 17- 21 | 31 | | |
| 20 | 32 | 1 | 22- 26 | 32 | | |
| 21 | 106 | 3 | 27- 31 | 33 | | |
| 22 | 144 | 2 | 32- 36 | 34 | | |
| 23 | 113 | 2 | 37- 41 | 35 | | |
| 24 | 83 | 4 | 42- 46 | 36 | | |
| 25 | 92 | 4 | 47- 51 | 37 | | |
| 26 | 91 | 3 | 52- 56 | 38 | | |
| 27 | 91 | 4 | 57- 61 | 39 | | |
| 28 | 75 | 6 | 62- 66 | 40 | | |
| 29 | 70 | 5 | 67- 71 | 41 | | |
| 30 | | | 72- 76 | 42 | | |

Maximum Wind Speed Data

| | | |
|---|--|--|
| Min. alt. wind speed 45 m.p.s. or more (m.) | | |
| Alt. of maximum wind speed (m.) | | |
| Dir. (degrees) and speed (m.p.s.) of Max. wind | | |
| Max. alt. wind speed 45 m.p.s. or more (m.) | | |

WHITEMAN AFB, 7 Sep 64 *missouri*

On 8 Sep 64 Hq USAF SAFOI PB (Helen) called regarding a sighting at Whiteman AFB on 7 Sep 64. UPI had asked them for information on sighting. Helen gave this information: Blue object 500 ft in air, speed 5 knots, & crashed *rose 20 ft in air* in field, rose about 5 ft took off at 4 - 5 knots. This was reported by Highway Patrol. Air Force Security People on station at Whiteman had done reporting to Highway Patrol.

On 8 Sep 64 call made to Whiteman AFB, Base Security Office, area code 816 Logan 3 5511. Spoke with Airman Farley. told him we were checking up on a UFO report. We have reports from Wash which we want to find out about. Call transfered to Wing (387). Spoke with Sgt Lemington. Last night at 2106 hours about 20 and 25 miles. Appeared about 200 ft in air. Similar reports. Directly South of original sighting. Col Baker said no action unless object intends penetration. Sgt Lemington said he would find out more information and give us a call right back after Maj Q informed him that the Secreaty of the Air Force needed this information in a hurry as someone had reported it to the UPI and associated press also had info on it.

10 Sep 64 placed a Call to Whiteman AFB, spoke with Command post. Sighting at 0336Z, 8 Sep 64, India reported sighting UFO, small blue light size of auto headlight. Also 5 other sighted south of Whiteman Moved ~~to~~ ~~South~~ towards Clinton, Missouri about 20 ft off ground. Mobile Strike team sent ~~to~~ out. Looked like it was hovering over another site. State highway patrol notified. Always in South. Striketeam called back in. Seemed to be moving with wind. Wind to South. Ask command Post to find out lateral movement. Command post ext 3855.

WX CLOKED 9/22

Termination
Alt. for
150 & 300 m.
are with
respect to
ground, alt.
for other
standard levels
are in km., msl.

BURST

R.S. Voach

CHARNER

| | | | | | | | | |
|-------|----|-------|-------|-------|-------|----|-----|------|
| 2250 | 12 | 1960 | 19.60 | 8300 | 200.4 | 12 | 201 | 12.5 |
| 3580 | 13 | 3210 | 19.55 | 9000 | 200.9 | 13 | 208 | 10.8 |
| 2430 | 14 | 3430 | 19.75 | 9600 | 201.3 | 14 | 204 | 10.0 |
| 3855 | 15 | 3700 | 19.95 | 10200 | 201.2 | 15 | 194 | 10.0 |
| 2010 | 16 | 3930 | 20.0 | 10800 | 200.5 | 16 | 192 | 11.4 |
| 4130 | 17 | 4180 | 19.90 | 11500 | 200.1 | 17 | 190 | 12.6 |
| 2790 | 18 | 4410 | 19.80 | 12300 | 199.2 | 18 | 184 | 12.5 |
| 4405 | 19 | 4650 | 19.70 | 13000 | 198.3 | 19 | 186 | 11.1 |
| 2970 | 20 | 4910 | 19.75 | 13600 | 197.9 | 20 | 191 | 10.2 |
| 4675 | 21 | 5140 | 19.90 | 14200 | 197.7 | 21 | 192 | 9.1 |
| 3150 | 22 | 5400 | 20.2 | 14700 | 197.8 | 22 | 200 | 9.0 |
| 4945 | 23 | 5660 | 20.3 | 15300 | 197.9 | 23 | 202 | 9.0 |
| 3330 | 24 | 5900 | 20.5 | 15800 | 198.1 | 24 | 206 | 2.5 |
| 5215 | 25 | 6140 | 20.8 | 16500 | 198.4 | 25 | 213 | 6.0 |
| 3510 | 26 | 6400 | 21.2 | 16500 | 198.6 | 26 | 213 | 5.0 |
| 5485 | 27 | 6640 | 21.5 | 16800 | 198.9 | 27 | 208 | 6.2 |
| 3690 | 28 | 6900 | 21.6 | 17400 | 199.2 | 28 | 208 | 5.6 |
| 5755 | 29 | 7080 | 21.9 | 17500 | 199.3 | 29 | 1 | |
| 3870 | 30 | | 22.1 | | 199.0 | 30 | 198 | 5.3 |
| 6025 | 31 | 7560 | 22.4 | 18200 | 198.8 | 31 | | |
| 4050 | 32 | | 22.8 | | 198.5 | 32 | 196 | 6.0 |
| 6295 | 33 | 8060 | 23.0 | 18900 | 198.8 | 33 | | |
| 4230 | 34 | | 23.3 | | 199.1 | 34 | 219 | 6.2 |
| 6565 | 35 | 8550 | 23.5 | 19600 | 199.6 | 35 | | |
| 4410 | 36 | | 23.9 | | 200.4 | 36 | 234 | 7.5 |
| 6835 | 37 | 9120 | 24.0 | 20400 | 201.1 | 37 | | |
| 4590 | 38 | | 24.2 | | 201.7 | 38 | 220 | 8.8 |
| 7105 | 39 | 9670 | 24.2 | 21400 | 202.4 | 39 | | |
| 4770 | 40 | | 24.3 | | 203.1 | 40 | 213 | 8.5 |
| 7375 | 41 | 10240 | 24.5 | 22200 | 204.1 | 41 | | |
| 4950 | 42 | | 25.1 | | 204.7 | 42 | 245 | 6.4 |
| 7645 | 43 | 10540 | 25.4 | 22750 | 205.4 | 43 | | |
| 5130 | 44 | | 25.9 | | 206.2 | 44 | 244 | 4.7 |
| 7915 | 45 | 11350 | 26.3 | 22750 | 206.9 | 45 | | |
| 5310 | 46 | | 26.7 | | 207.6 | 46 | 223 | 6.0 |
| 8185 | 47 | 11930 | 27.2 | 23100 | 208.5 | 47 | | |
| 5490 | 48 | | 27.6 | | 209.1 | 48 | 262 | 5.3 |
| 8455 | 49 | 12500 | 27.9 | 23500 | 209.8 | 49 | | |
| 5670 | 50 | | 28.3 | | 210.8 | 50 | 275 | 7.0 |
| 8730 | | | | | | | | |
| 6030 | | | | | | | | |
| 9285 | | | | | | | | |
| 6210 | | | | | | | | |
| 9565 | | | | | | | | |
| 6390 | | | | | | | | |
| 9850 | | | | | | | | |
| 6570 | | | | | | | | |
| 10135 | | | | | | | | |
| 6750 | | | | | | | | |
| 10420 | | | | | | | | |
| 6930 | | | | | | | | |
| 10710 | | | | | | | | |
| 7110 | | | | | | | | |
| 11005 | | | | | | | | |
| 7290 | | | | | | | | |
| 11300 | | | | | | | | |
| 7470 | | | | | | | | |
| 11595 | | | | | | | | |
| 7650 | | | | | | | | |
| 11890 | | | | | | | | |
| 7830 | | | | | | | | |
| 12185 | | | | | | | | |
| 8010 | | | | | | | | |
| 12480 | | | | | | | | |
| 8190 | | | | | | | | |
| 12775 | | | | | | | | |
| 8370 | | | | | | | | |
| 13075 | | | | | | | | |
| 8550 | | | | | | | | |
| 13375 | | | | | | | | |
| 8730 | | | | | | | | |
| 13675 | | | | | | | | |
| 8910 | | | | | | | | |
| 13975 | | | | | | | | |
| 9090 | | | | | | | | |
| 14275 | | | | | | | | |

Coded Data for Transmission

[illegible]

| | | | |
|-----|-----|-------|------|
| 70 | 332 | 4450 | 35.2 |
| 75 | 278 | 9700 | 38.3 |
| 80 | 264 | 10550 | 41.3 |
| 85 | 234 | 11360 | 44.4 |
| 90 | 206 | 12180 | 47.5 |
| 95 | 180 | 13160 | 50.7 |
| 100 | 156 | 13950 | 53.9 |
| 105 | 135 | 14840 | 57.3 |
| 110 | 114 | 15860 | 60.7 |
| 115 | 97 | 16800 | 64.5 |
| 120 | 81 | 17850 | 68.2 |
| 125 | 66 | 19130 | 72.4 |
| 130 | 52 | 20610 | 77.1 |
| 135 | 39 | 22500 | 82.8 |
| 140 | 26 | 25180 | 90.1 |
| 145 | 12 | | 1.3 |
| | | | |
| | | | |
| | | | |
| No. | 24 | 25661 | 91.6 |

Punched Card Data

| Altitude # | Direction (degrees) | Speed (m.p.s.) | Card columns | Altitude # | Direction (degrees) | Speed |
|-------------------|---------------------|----------------|--------------|-------------------|---------------------|-------|
| Card No. 1 | | | 15 | Card No. 2 | | |
| Type of equipment | | 8 | 16 | Type of equipment | | 8 |
| sfc. | 160 | 4 | 17-21 | 7 | 207 | 6 |
| 150 M. | 179 | 9 | 22-26 | 8 | 198 | 6 |
| 300 M. | 193 | 13 | 27-31 | 9 | 253 | 7 |
| 0.5 | 192 | 13 | 32-36 | 10 | 240 | 9 |
| 1.0 | 208 | 14 | 37-41 | 11 | 261 | 6 |
| 1.5 | 207 | 11 | 42-46 | 12 | 270 | 6 |
| 2.0 | 197 | 9 | 47-51 | 13 | 272 | 7 |
| 2.5 | 195 | 9 | 52-56 | 14 | 275 | 8 |
| 3 | 196 | 13 | 57-61 | 15 | 266 | 9 |
| 4 | 193 | 10 | 62-66 | 16 | 262 | 7 |
| 5 | 187 | 11 | 67-71 | 17 | 240 | 5 |
| 6 | 204 | 9 | 72-76 | 18 | 236 | 5 |

Maximum Wind Speed Data

| | | |
|---|--|--|
| Min. alt. wind speed 45 m.p.s. or more (m.) | | |
| Alt. of maximum wind speed (m.) | | |
| Dir. (degrees) and speed (m.p.s.) of Max. wind | | |
| Max. alt. wind speed 45 m.p.s. or more (m.) | | |
| Enter check if additional levels appear on reverse side. | | |

FORM 610-12
631
COMM-WB-DC

Page

1

Stamp the following:
Name of Station
Lat. and long.
Local Standard time, 20th meridian
El. of Station
Method of obs., e.g., rawinsonde, rawin, pibal
Type of equip., e.g., WBRT-57, GMD-1A, GMD-1, SCR-658, theodolite

*Identification

COLUMBIA, MO.
38° 58' N · 92° 22' W
LST-00th Meridian El. 238
Rawinsonde WBRT-57

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

WINDS-ALOFT COMPUTATION SHEET
(LAND STATION FORM)

WBAN-20

| | Year | Month | Day | Time |
|--------------------|------|-------|-----|------|
| Actual time mer. | 1964 | SEP | 7 | 0515 |
| Scheduled (G.M.T.) | 1964 | SEP | 7 | 12 |
| Ascension No. | 931 | | | |

Type of balloon 600CP

Orientation, 360° = South

Rawinsonde Time-Altitude Data

| Slant range (m.) (yds.) | Pibal ht. above sfc. (m.) 30 gram 100 gram | Minute | Rawin ht. above surface (m.) | Elevation angle ° | | Distance from observation point (m.) | Azimuth angle ° | Minute | Wind | | Contact | Pressure (mb.) | Altitude (m., m.s.l.) | Elapsed time (min.) |
|-------------------------|---|--------|------------------------------|-------------------|----------|--------------------------------------|-----------------|--------|----------------------------------|----------------|---------|----------------|-----------------------|---------------------|
| | | | | Observed | Smoothed | | | | Direction ° 360° = N. sfc. | Speed (m.p.s.) | | | | |
| | 216 350 | 1 | 270 | 20.1 | | 740 | 187.3 | 1 | 194 | 13.8 | 6.5 | 988 | 238 | 0.0 |
| | 414 670 | 2 | 520 | 17.35 | | 1660 | 193.9 | 2 | 204 | 15.5 | 10 | 936 | 710 | 2.1 |
| | 612 980 | 3 | 770 | 16.95 | | 2500 | 198.3 | 3 | 211 | 13.8 | 15 | 870 | 1360 | 4.7 |
| | 801 1285 | 4 | 1020 | 17.15 | | 3300 | 202.3 | 4 | 215 | 12.5 | 20 | 807 | 2000 | 7.2 |
| | 990 1585 | 5 | 1280 | 17.80 | | 4000 | 205.5 | 5 | 207 | 10.8 | 25 | 749 | 2630 | 9.9 |
| | 1170 1880 | 6 | 1520 | 18.25 | | 4600 | 208.9 | 6 | 201 | 9.0 | 30 | 692 | 3280 | 12.6 |
| | 1350 2170 | 7 | 1760 | 19.10 | | 5100 | 203.3 | 7 | 196 | 9.3 | 35 | 639 | 3950 | 15.3 |
| | 1530 2455 | 8 | 2020 | 19.55 | | 5700 | 202.8 | 8 | 196 | 9.2 | 40 | 587 | 4620 | 18.1 |
| | 1710 2740 | 9 | 2260 | 20.0 | | 6200 | 202.2 | 9 | 195 | 9.0 | 45 | 539 | 5290 | 20.9 |
| | 1890 3020 | 10 | 2480 | 20.1 | | 6800 | 201.4 | 10 | 194 | 11.0 | 50 | 494 | 5980 | 23.6 |
| | 2070 3300 | 11 | 2730 | 19.90 | | 7500 | 201.0 | 11 | 195 | 12.5 | 55 | 450 | 6680 | 26.5 |
| | 2250 3580 | 12 | 2960 | 19.60 | | 8300 | 200.4 | 12 | 201 | 12.5 | 60 | 410 | 7390 | 29.4 |
| | 2430 3855 | 13 | 3210 | 19.55 | | 9000 | 200.9 | 13 | 208 | 10.8 | 65 | 367 | 8200 | 32.3 |
| | 2610 4130 | 14 | 3430 | 19.75 | | 9600 | 201.3 | 14 | 204 | 10.0 | 70 | 332 | 9930 | 35.4 |
| | 2790 4405 | 15 | 3700 | 19.95 | | 10200 | 201.2 | 15 | 194 | 10.0 | 75 | 298 | 9700 | 38.3 |
| | 2970 4675 | 16 | 3930 | 20.0 | | 10800 | 200.5 | 16 | 192 | 11.4 | 80 | 264 | 10550 | 41.3 |
| | 3150 4945 | 17 | 4180 | 19.90 | | 11500 | 200.1 | 17 | 190 | 12.6 | 85 | 234 | 11360 | 44.4 |
| | 3330 5215 | 18 | 4410 | 19.80 | | 12300 | 199.2 | 18 | 184 | 12.5 | 90 | 206 | 12180 | 47.5 |
| | 3510 5485 | 19 | 4650 | 19.70 | | 13000 | 198.3 | 19 | 186 | 11.1 | 95 | 180 | 13160 | 50.7 |
| | 3690 5755 | 20 | 4910 | 19.75 | | 13600 | 197.9 | 20 | 171 | 10.2 | 100 | 156 | 13950 | 53.9 |
| | 3870 6025 | 21 | 5140 | 19.70 | | 14200 | 197.2 | 21 | 172 | 9.1 | 105 | 135 | 14840 | 57.7 |
| | | | | | | | | | | | 110 | 114 | 15860 | 60.2 |
| | | | | | | | | | | | 115 | 97 | 16200 | 64.1 |

| | | | | | | | | | |
|-------|-----|-------|------|--|-------|-------|-----|-----|-----|
| 17670 | 62 | 17150 | 30.0 | | | 772.3 | 63 | | |
| 17950 | 63 | | 30.2 | | | 772.3 | 64 | 239 | 4.6 |
| 18235 | 64 | 16490 | 30.4 | | 27900 | 772.5 | 65 | | |
| 18515 | 65 | | 30.5 | | | 772.9 | 66 | 241 | 5.5 |
| 18795 | 66 | 17080 | 30.7 | | 28600 | 772.7 | 67 | | |
| 19080 | 67 | | 30.8 | | | 773.1 | 68 | 236 | 3.8 |
| 19360 | 68 | 17700 | 31.1 | | 29200 | 773.4 | 69 | | |
| 19645 | 69 | | 31.4 | | | 773.4 | 70 | 224 | 2.6 |
| 19925 | 70 | 18300 | 31.7 | | 29500 | 773.5 | 71 | | |
| 20210 | 71 | | 31.9 | | | 773.6 | 72 | 227 | 3.7 |
| 20490 | 72 | 18920 | 32.2 | | 29900 | 773.5 | 73 | | |
| 20775 | 73 | | 32.3 | | | 773.5 | 74 | 224 | 3.6 |
| 21055 | 74 | 19560 | 32.5 | | 30600 | 773.5 | 75 | | |
| 21340 | 75 | | 32.6 | | | 773.5 | 76 | 122 | 1.0 |
| 21620 | 76 | 20100 | 32.9 | | 30900 | 773.5 | 77 | | |
| 21905 | 77 | | 33.4 | | | 774.0 | 78 | 72 | 2.4 |
| 22185 | 78 | 20780 | 34.0 | | 30600 | 773.7 | 79 | | |
| 22470 | 79 | | 34.4 | | | 773.4 | 80 | 71 | 2.9 |
| 22750 | 80 | 21420 | 34.7 | | 30500 | 773.1 | 81 | | |
| 23040 | 81 | | 35.0 | | | 772.9 | 82 | 95 | 1.6 |
| 23320 | 82 | 22000 | 35.5 | | 30400 | 773.0 | 83 | | |
| 23600 | 83 | | 36.0 | | | 773.0 | 84 | 92 | 3.0 |
| 23880 | 84 | 22700 | 36.7 | | 30300 | 772.8 | 85 | | |
| 24160 | 85 | | 37.4 | | | 772.3 | 86 | 72 | 4.1 |
| 24440 | 86 | 23500 | 38.0 | | 29900 | 771.8 | 87 | | |
| 24730 | 87 | | 38.5 | | | 771.9 | 88 | 66 | 5.6 |
| 25010 | 88 | 24180 | 39.3 | | 29300 | 771.8 | 89 | | |
| 25300 | 89 | | 40.1 | | | 771.5 | 90 | 89 | 8.8 |
| 25580 | 90 | 24890 | 40.9 | | 28600 | 770.5 | 91 | | |
| 25860 | 91 | 25360 | 41.5 | | 28400 | 770.5 | 92 | | |
| 26140 | 92 | | | | | | 93 | | |
| 26420 | 93 | | | | | | 94 | | |
| 26700 | 94 | | | | | | 95 | | |
| 26980 | 95 | | | | | | 96 | | |
| 27260 | 96 | | | | | | 97 | | |
| 27540 | 97 | | | | | | 98 | | |
| 27820 | 98 | | | | | | 99 | | |
| 28100 | 99 | | | | | | 100 | | |
| 28380 | 100 | | | | | | 101 | | |
| 28660 | 101 | | | | | | 102 | | |
| 28940 | 102 | | | | | | 103 | | |
| 29220 | 103 | | | | | | 104 | | |
| 29500 | 104 | | | | | | 105 | | |
| 29780 | 105 | | | | | | | | |

| Elevation angle | Smoothed | | | | | | | | | | |
|------------------------------------|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | Observed | | | | | | | | | | |
| Rawin ht. above surface (m.) | | | | | | | | | | | |
| | | | | | | | | | | | |
| Slant range (m.) (yds.) | | | | | | | | | | | |
| | | | | | | | | | | | |
| Minute | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | |

rawinson
rawin, p
6. Type of
equip.,
WBRT-5
GMD-1A
GMD-1,
SCR-65E
theodolite

Altitudes
in km., n

Punched Card Data

| Altitude# | Direction (degrees) | Speed (m.p.s.) | Card columns | Altitude# | Direction (degrees) | Speed (m.p.s.) |
|----------------------|------------------------|-------------------|-----------------|----------------------|------------------------|-------------------|
| Card No. 3 | | | 15 | Card No. 4 | | |
| Type of equipment | 6 | | 16 | Type of equipment | 8 | |
| 19 | 227 | 3 | 17-21 | 31 | | |
| 20 | 195 | 3 | 22-26 | 32 | | |
| 21 | 75 | 2 | 27-31 | 33 | | |
| 22 | 75 | 2 | 32-36 | 34 | | |
| 23 | 91 | 3 | 37-41 | 35 | | |
| 24 | 70 | 4 | 42-46 | 36 | | |
| 25 | 73 | 8 | 47-51 | 37 | | |
| 26 | | | 52-56 | 38 | | |
| 27 | | | 57-61 | 39 | | |
| 28 | | | 62-66 | 40 | | |
| 29 | | | 67-71 | 41 | | |
| 30 | | | 72-76 | 42 | | |

Maximum Wind Speed Data

| | | |
|---|--|--|
| Min. alt. wind speed 45 m.p.s. or more (m.) | | |
| Alt. of maximum wind speed (m.) | | |
| Dir. (degrees) and speed (m.p.s.) of Max. wind | | |
| Max. alt. wind speed 45 m.p.s. or more (m.) | | |

Identification

COLUMBIA, MO.
38° 58' N 92° 22' W
LST-90th Meridian El. 238
Rawinsonde WBRT-57

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

WINDS-ALOFT COMPUTATION SHEET
(LAND STATION FORM)

WBAN-20

| | Year | Month | Day | Time |
|------------------------|------|-------|-----|------|
| Actual time th mer. | 1964 | SEP | 7 | 0515 |
| Scheduled (G.M.T.) | 1964 | SEP | 7 | 12 |
| Ascension No. | 951 | | | |

Page
2

| Slant range (M.) (yds.) | Pibal ht. above sfc. (m.) | Minute | Rawin ht. above surface (m.) | Elevation angle° | | Distance from observation point (m.) | Azimuth angle ° | Minute | Wind | |
|----------------------------|---------------------------------|--------|---------------------------------------|------------------|----------|---|-----------------------|--------|-----------------------|-------------------|
| | | | | Observed | Smoothed | | | | Direction° 360°= N | Speed (m.p.s.) |
| | 14570 | 51 | 13080 | 28.6 | | 23900 | 211.8 | 51 | | |
| | 14860 | 52 | 13380 | 29.0 | | 24000 | 213.3 | 52 | 285 | 8.5 |
| | 15145 | 53 | 13620 | 29.3 | | 24200 | 214.1 | 53 | | |
| | 15425 | 54 | 13890 | 29.6 | | 24500 | 215.0 | 54 | 274 | 8.0 |
| | 15705 | 55 | | 29.7 | | | 216.0 | 55 | | |
| | 15985 | 56 | 14380 | 29.8 | | 25000 | 217.1 | 56 | 265 | 9.5 |
| | 16265 | 57 | | 29.8 | | | 218.0 | 57 | | |
| | 16545 | 58 | 14900 | 29.8 | | 25900 | 218.8 | 58 | 265 | 9.5 |
| | 16825 | 59 | | 29.8 | | | 219.8 | 59 | | |
| | 17105 | 60 | 15430 | 29.8 | | 26700 | 220.6 | 60 | 263 | 9.5 |
| | 17385 | 61 | | 29.8 | | | 221.5 | 61 | | |
| | 17670 | 62 | 15950 | 30.0 | | 27500 | 222.1 | 62 | 250 | 6.5 |
| | 17950 | 63 | | 30.2 | | | 222.3 | 63 | | |
| | 18235 | 64 | 16490 | 30.4 | | 27900 | 222.5 | 64 | 239 | 4.6 |
| | 18515 | 65 | | 30.5 | | | 222.9 | 65 | | |
| | 18795 | 66 | 17080 | 30.7 | | 28600 | 222.7 | 66 | 241 | 5.5 |
| | 19080 | 67 | | 30.8 | | | 223.1 | 67 | | |
| | 19360 | 68 | 17700 | 31.1 | | 29200 | 223.6 | 68 | 236 | 3.8 |
| | 19645 | 69 | | 31.4 | | | 223.4 | 69 | | |
| | 19925 | 70 | 18300 | 31.7 | | 29500 | 223.4 | 70 | 224 | 2.6 |
| | 20210 | 71 | | 31.9 | | | 223.6 | 71 | | |
| | 20490 | 72 | 18920 | 32.2 | | 29900 | 223.5 | 72 | 227 | 3.7 |
| | 20775 | 73 | | 32.3 | | | 223.5 | 73 | | |
| | 21055 | 74 | 19560 | 32.4 | | 30600 | 223.5 | 74 | 224 | 3.6 |
| | 21340 | 75 | | 32.6 | | | 223.5 | 75 | | |
| | 21620 | 76 | 20100 | 32.9 | | 30900 | 223.5 | 76 | 122 | 1.0 |
| | | 77 | | | | | | 77 | | |

*Stamp the
following:

1. Name of Station
2. Lat. and long.
3. Local Standard time, meridian
4. El. of St.
5. Method of obs., e. rawinsonde rawin, p.
6. Type of equip., WBRT-5, GMD-1A, GMD-1, SCR-65, theodolite

*Altitude
in km, m

Name of Station
 Lat. and long.
 Local Standard time, 90 th meridian
 El. of Station
 Method of obs., e.g., rawinsonde, rawin, pibal
 Type of equip., e.g., WBRT-57, GMD-1A, GMD-1, SCR-658, theodolite

| *Identification | | | | COLUMBIA, MO. 38° 58' N 92° 22' W LST-90th Meridian El. 238 Rawinsonde WBRT-57 | | | | U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU WINDS-ALOFT COMPUTATION SHEET (LAND STATION FORM) WBAN-20 | | | | <table border="1"> <tr> <th>Actual time</th> <th>Year</th> <th>Month</th> <th>Day</th> <th>Time</th> </tr> <tr> <td>20th mer.</td> <td>1964</td> <td>SEP</td> <td>7</td> <td>1715</td> </tr> <tr> <th>Scheduled (G.M.T.)</th> <td>1964</td> <td>SEP</td> <td>8</td> <td>00</td> </tr> <tr> <th colspan="5">Ascension No.</th> </tr> </table> | | | | Actual time | Year | Month | Day | Time | 20th mer. | 1964 | SEP | 7 | 1715 | Scheduled (G.M.T.) | 1964 | SEP | 8 | 00 | Ascension No. | | | | |
|---------------------------------|---|--------|------------------------------|---|----------|--------------------------------------|-----------------|--|-----------------------|----------------|---------|--|-----------------------|---------------------|--|-------------|------|-------|-----|------|-----------|------|-----|---|------|--------------------|------|-----|---|----|---------------|--|--|--|--|
| Actual time | Year | Month | Day | Time | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20th mer. | 1964 | SEP | 7 | 1715 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Scheduled (G.M.T.) | 1964 | SEP | 8 | 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ascension No. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Type of balloon GoofRane PA 322 | | | | Orientation, 360° = South | | | | Rawinsonde Time-Altitude Data | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Slant range (m.) (yds.) | Pibal ht. above sfc. (m.) 30 gram 100 gram | Minute | Rawin ht. above surface (m.) | Elevation angle ° | | Distance from observation point (m.) | Azimuth angle ° | Minute | Wind | | Contact | Pressure (mb.) | Altitude (m., m.s.l.) | Elapsed time (min.) | | | | | | | | | | | | | | | | | | | | | |
| | | | | Observed | Smoothed | | | | Direction ° 360° = N. | Speed (m.p.s.) | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 216 350 | 1 | 230 | 32.2 | | 370 | 204.4 | 1 | 207 | 8.1 | 6.8 | 988 | 238 | 0.0 | | | | | | | | | | | | | | | | | | | | | |
| | 414 670 | 2 | 500 | 29.0 | | 890 | 206.6 | 2 | 206 | 9.9 | 10 | 934 | 740 | 2.0 | | | | | | | | | | | | | | | | | | | | | |
| | 612 980 | 3 | 770 | 27.0 | | 1500 | 207.6 | 3 | 204 | 10.0 | 15 | 866 | 1410 | 4.6 | | | | | | | | | | | | | | | | | | | | | |
| | 801 1285 | 4 | 1040 | 26.5 | | 2090 | 203.2 | 4 | 196 | 10.1 | 20 | 801 | 2080 | 7.5 | | | | | | | | | | | | | | | | | | | | | |
| | 990 1585 | 5 | 1290 | 25.9 | | 2690 | 201.1 | 5 | 191 | 10.0 | 25 | 740 | 2760 | 9.9 | | | | | | | | | | | | | | | | | | | | | |
| | 1170 1880 | 6 | 1560 | 25.4 | | 3250 | 199.4 | 6 | 190 | 10.5 | 30 | 681 | 3410 | 12.5 | | | | | | | | | | | | | | | | | | | | | |
| | 1350 2170 | 7 | 1800 | 24.3 | | 3950 | 197.7 | 7 | 188 | 11.2 | 35 | 627 | 4100 | 15.5 | | | | | | | | | | | | | | | | | | | | | |
| | 1530 2455 | 8 | 2050 | 23.7 | | 4590 | 196.1 | 8 | 188 | 10.7 | 40 | 574 | 4800 | 18.5 | | | | | | | | | | | | | | | | | | | | | |
| | 1710 2740 | 9 | 2280 | 23.8 | | 5100 | 195.2 | 9 | 189 | 9.4 | 45 | 524 | 5540 | 21.4 | | | | | | | | | | | | | | | | | | | | | |
| | 1890 3020 | 10 | 2540 | 24.0 | | 5630 | 194.7 | 10 | 193 | 8.1 | 50 | 477 | 6280 | 24.7 | | | | | | | | | | | | | | | | | | | | | |
| | 2070 3300 | 11 | 2800 | 24.4 | | 6080 | 195.0 | 11 | 201 | 7.9 | 55 | 432 | 7030 | 27.7 | | | | | | | | | | | | | | | | | | | | | |
| | 2250 3580 | 12 | 3050 | 24.5 | | 6590 | 195.9 | 12 | 206 | 9.0 | 60 | 390 | 7800 | 30.8 | | | | | | | | | | | | | | | | | | | | | |
| | 2430 3855 | 13 | 3280 | 24.4 | | 7130 | 196.5 | 13 | 209 | 8.7 | 65 | 350 | 8609 | 33.9 | | | | | | | | | | | | | | | | | | | | | |
| | 2610 4130 | 14 | 3500 | 24.4 | | 7580 | 197.6 | 14 | 213 | 8.6 | 70 | 314 | 9480 | 37.3 | | | | | | | | | | | | | | | | | | | | | |
| | 2790 4405 | 15 | 3780 | 24.2 | | 8250 | 198.7 | 15 | 214 | 9.4 | 75 | 280 | 10180 | 40.4 | | | | | | | | | | | | | | | | | | | | | |
| | 2970 4675 | 16 | 3990 | 24.1 | | 8740 | 199.5 | 16 | 214 | 10.5 | 80 | 246 | 11110 | 43.6 | | | | | | | | | | | | | | | | | | | | | |
| | 3150 4945 | 17 | 4250 | 24.2 | | 9430 | 200.7 | 17 | 215 | 10.3 | 85 | 217 | 11950 | 46.9 | | | | | | | | | | | | | | | | | | | | | |
| | 3330 5215 | 18 | 4500 | 24.4 | | 9900 | 201.5 | 18 | 217 | 9.1 | 90 | 190 | 12960 | 50.7 | | | | | | | | | | | | | | | | | | | | | |
| | 3510 5485 | 19 | 4770 | 24.7 | | 10320 | 202.0 | 19 | 219 | 7.9 | 95 | 164 | 13680 | 54.2 | | | | | | | | | | | | | | | | | | | | | |
| | 3690 5755 | 20 | 5000 | 24.9 | | 10750 | 203.1 | 20 | 223 | 8.2 | 100 | 141 | 14640 | 57.7 | | | | | | | | | | | | | | | | | | | | | |
| | 3870 6025 | 21 | 5280 | 25.0 | | 11250 | 204.3 | 21 | 227 | 8.3 | 105 | 120 | 15620 | 61.4 | | | | | | | | | | | | | | | | | | | | | |
| | 4050 6295 | 22 | 5500 | 25.1 | | 11740 | 205.3 | 22 | 224 | 8.8 | 110 | 101 | 16650 | 65.1 | | | | | | | | | | | | | | | | | | | | | |
| | 4230 6565 | 23 | 5780 | 25.1 | | 12300 | 205.4 | 23 | 217 | 8.4 | 115 | 84 | 17740 | 69.3 | | | | | | | | | | | | | | | | | | | | | |
| | 4410 6835 | 24 | 5980 | 25.2 | | 12610 | 205.6 | 24 | 209 | 6.3 | 120 | 69 | 187 | | | | | | | | | | | | | | | | | | | | | | |

Termination
Alt. for
150 & 300 m.
are with
respect to
ground, alt.
for other
standard levels
are in km., incl.

10/11/2017 10:11:11 AM

Quest

Computer W. J. D. D.

Verdine Verdine

| | | | | | | | | |
|---------------|----|-------|------|-------|-------|----|-----|------|
| 2250 3580 | 12 | 3050 | 24.5 | 6590 | 195.7 | 12 | 206 | 9.0 |
| 2430 3655 | 13 | 3280 | 24.4 | 7130 | 196.5 | 13 | 209 | 8.7 |
| 2610 4130 | 14 | 3500 | 24.4 | 7580 | 197.6 | 14 | 213 | 8.6 |
| 2790 4405 | 15 | 3780 | 24.2 | 8250 | 198.7 | 15 | 214 | 9.4 |
| 2970 4675 | 16 | 3990 | 24.1 | 8740 | 199.5 | 16 | 214 | 10.5 |
| 3150 4945 | 17 | 4250 | 24.2 | 9430 | 200.7 | 17 | 215 | 10.3 |
| 3330 5215 | 18 | 4500 | 24.4 | 9900 | 201.5 | 18 | 217 | 9.1 |
| 3510 5485 | 19 | 4770 | 24.7 | 10320 | 202.0 | 19 | 219 | 7.9 |
| 3690 5755 | 20 | 5000 | 24.9 | 10750 | 203.1 | 20 | 223 | 8.2 |
| 3870 6025 | 21 | 5280 | 25.0 | 11250 | 204.3 | 21 | 227 | 8.3 |
| 4050 6295 | 22 | 5500 | 25.1 | 11740 | 205.3 | 22 | 224 | 8.8 |
| 4230 6565 | 23 | 5780 | 25.1 | 12300 | 205.4 | 23 | 217 | 8.4 |
| 4410 6835 | 24 | 5980 | 25.2 | 12610 | 205.6 | 24 | 209 | 6.3 |
| 4590 7105 | 25 | 6200 | 25.3 | 12870 | 205.2 | 25 | 204 | 5.2 |
| 4770 7375 | 26 | 6480 | 25.4 | 13490 | 205.4 | 26 | 207 | 7.0 |
| 4950 7645 | 27 | 6710 | 25.7 | 14000 | 206.2 | 27 | 220 | 8.0 |
| 5130 7915 | 28 | 6960 | 26.1 | 14220 | 207.0 | 28 | 236 | 7.1 |
| 5310 8185 | 29 | 7180 | 26.5 | 14350 | 208.0 | 29 | | |
| 5490 8455 | 30 | | 26.8 | | 208.6 | 30 | 229 | 6.5 |
| 5670 8730 | 31 | 7680 | 26.9 | 15100 | 209.2 | 31 | | |
| 5850 9005 | 32 | | 27.2 | | 209.5 | 32 | 228 | 6.0 |
| 6030 9285 | 33 | 8200 | 27.4 | 15750 | 209.9 | 33 | | |
| 6210 9565 | 34 | | 27.5 | | 210.0 | 34 | 225 | 6.5 |
| 6390 9850 | 35 | 8900 | 27.6 | 16600 | 210.0 | 35 | | |
| 6570 10135 | 36 | | 27.7 | | 210.1 | 36 | 221 | 7.0 |
| 6750 10420 | 37 | 9200 | 27.7 | 17400 | 210.3 | 37 | | |
| 6930 10715 | 38 | | 27.8 | | 210.7 | 38 | 225 | 6.0 |
| 7110 11005 | 39 | 9900 | 28.2 | 18000 | 211.0 | 39 | | |
| 7290 11300 | 40 | | 28.6 | | 211.5 | 40 | 232 | 4.5 |
| 7470 11595 | 41 | 10200 | 28.8 | 18500 | 211.7 | 41 | | |
| 7650 11890 | 42 | | 29.1 | | 211.9 | 42 | 242 | 2.5 |
| 7830 12185 | 43 | 10700 | 29.6 | 18800 | 212.0 | 43 | | |
| 8010 12480 | 44 | | 30.1 | | 212.2 | 44 | 250 | 2.0 |
| 8190 12775 | 45 | 11200 | 30.6 | 19900 | 212.8 | 45 | | |
| 8370 13075 | 46 | | 31.3 | | 213.4 | 46 | 289 | 5.0 |
| 8550 13375 | 47 | 11900 | 32.0 | 19900 | 214.9 | 47 | | |
| 8730 13675 | 48 | | 32.4 | | 216.0 | 48 | 304 | 6.5 |
| 8910 13975 | 49 | 12200 | 32.9 | 18800 | 217.0 | 49 | | |
| 9090 14275 | 50 | | 33.4 | | 217.8 | 50 | 306 | 4.5 |

Coded Data for Transmission

| | | | | | | | | | |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PP72145 | 00951 | 2212 | 2118 | 2119 | 42020 | 1919 | 61921 | 1922 | 81919 |
| 1916 | 02015 | 22117 | 42120 | 62216 | 82216 | 02115 | 32225 | 52313 | 02214 |
| 52404 | 03013 | 52810 | 02810 | 32414 | n // | 99996 | 02407 | 51707 | 01503 |
| 00410 | 01009 | 00510 | 20611 | 0 | | | | | |

| | | | |
|------|-----|-------|-------|
| 70 | 219 | 10110 | 37.3 |
| 75 | 280 | 10180 | 40.0 |
| 80 | 246 | 11110 | 43.6 |
| 85 | 217 | 11250 | 46.9 |
| 90 | 190 | 12960 | 50.5 |
| 95 | 164 | 13690 | 54.2 |
| 100 | 141 | 14640 | 57.7 |
| 105 | 120 | 15600 | 61.4 |
| 110 | 101 | 16650 | 65.1 |
| 115 | 84 | 17740 | 69.3 |
| 120 | 69 | 18930 | 73.2 |
| 125 | 54 | 20240 | 77.7 |
| 130 | 41 | 22230 | 84.0 |
| 135 | 28 | 24640 | 92.9 |
| 140 | 14 | 27300 | 105.8 |
| | | | |
| | | | 8.3 |
| | | | |
| | | | |
| 14/1 | 10 | 31552 | 112.9 |

Punched Card Data

| Altitude # | Direction (degrees) | Speed (m.p.s.) | Card columns | Altitude # | Direction (degrees) | Speed |
|-------------------|---------------------|----------------|--------------|-------------------|---------------------|-------|
| Card No. 1 | | | 15 | Card No. 2 | | |
| Type of equipment | | 8 | 16 | Type of equipment | | 8 |
| sf. | 220 | 5 | 17-21 | 7 | 220 | 5 |
| 150 M. | 212 | 7 | 22-26 | 8 | 227 | 6 |
| 300 M. | 207 | 9 | 27-31 | 9 | 222 | 7 |
| 0.5 | 207 | 8 | 32-36 | 10 | 230 | 5 |
| 1.0 | 204 | 10 | 37-41 | 11 | 247 | 2 |
| 1.5 | 192 | 10 | 42-46 | 12 | 300 | 2 |
| 2.0 | 188 | 11 | 47-51 | 13 | 294 | 1 |
| 2.5 | 187 | 10 | 52-56 | 14 | 277 | 7 |
| 3 | 200 | 8 | 57-61 | 15 | 285 | 6 |
| 4 | 214 | 7 | 62-66 | 16 | 260 | 7 |
| 5 | 218 | 8 | 67-71 | 17 | 246 | 6 |
| 6 | 218 | 8 | 72-76 | 18 | 240 | 6 |

Maximum Wind Speed Data

| | | |
|---|--|--|
| Min. alt. wind speed 45 m.p.s. or more (m.) | | |
| Alt. of maximum wind speed (m.) | | |
| Dir. (degrees) and speed (m.p.s.) of Max. wind | | |
| Max. alt. wind speed 45 m.p.s. or more (m.) | | |
| Enter check if additional levels appear on reverse side. | | |

| | | | | | | | |
|-------|-----|--------|------|-------|------|-----|---------|
| 17670 | 62 | 15.5 | | | | | |
| 17950 | 63 | | 35.9 | | 2287 | 63 | |
| 18235 | 64 | 16.140 | 35.9 | 22200 | 2274 | 64 | 250 7.0 |
| 18515 | 65 | | 35.8 | | 2303 | 65 | |
| 18795 | 66 | 16680 | 36.0 | 22800 | 2307 | 66 | 247 5.5 |
| 19080 | 67 | | 36.2 | | 2310 | 67 | |
| 19360 | 68 | 17220 | 36.4 | 23300 | 2312 | 68 | 243 5.0 |
| 19645 | 69 | | 36.5 | | 2306 | 69 | |
| 19925 | 70 | 17780 | 36.5 | 23900 | 2308 | 70 | 240 4.0 |
| 20210 | 71 | | 36.6 | | 2316 | 71 | |
| 20490 | 72 | 18300 | 37.1 | 24100 | 2316 | 72 | 237 3.0 |
| 20775 | 73 | | 37.3 | | 2313 | 73 | |
| 21055 | 74 | 18920 | 37.5 | 24550 | 2312 | 74 | 222 2.5 |
| 21340 | 75 | | 37.7 | | 2311 | 75 | |
| 21620 | 76 | 19520 | 38.3 | 24700 | 2308 | 76 | 178 3.5 |
| 21905 | 77 | | 38.7 | | 2313 | 77 | |
| 22185 | 78 | 20080 | 38.9 | 24800 | 2297 | 78 | 165 3.0 |
| 22470 | 79 | | 39.0 | | 2295 | 79 | |
| 22750 | 80 | 20700 | 39.1 | 25300 | 2293 | 80 | 157 2.0 |
| 23040 | 81 | | 39.5 | | 2295 | 81 | |
| 23320 | 82 | 21300 | 40.1 | 25300 | 2295 | 82 | 150 1.5 |
| 23600 | 83 | | 40.5 | | 2293 | 83 | |
| 23880 | 84 | 21900 | 40.9 | 25200 | 2291 | 84 | 122 2.0 |
| 24160 | 85 | | 41.3 | | 2290 | 85 | |
| 24440 | 86 | 22480 | 41.8 | 25050 | 2289 | 86 | 85 3.0 |
| 24730 | 87 | | 42.0 | | 2291 | 87 | |
| 25010 | 88 | 23080 | 43.3 | 24400 | 2292 | 88 | 58 6.0 |
| 25300 | 89 | | 44.1 | | 2288 | 89 | |
| 25580 | 90 | 23620 | 44.9 | 23600 | 2283 | 90 | 18 6.5 |
| 25860 | 91 | | 45.5 | | 2277 | 91 | |
| 26140 | 92 | 24350 | 46.1 | 23250 | 2277 | 92 | 75 4.0 |
| 26420 | 93 | | 46.3 | | 2273 | 93 | |
| 26700 | 94 | 25240 | 47.5 | 23000 | 2275 | 94 | 78 4.5 |
| 26980 | 95 | | 48.4 | | 2269 | 95 | |
| 27260 | 96 | 25920 | 49.2 | 22300 | 2259 | 96 | 85 6.5 |
| 27540 | 97 | | 49.9 | | 2251 | 97 | |
| 27820 | 98 | 26500 | 50.5 | 21700 | 2241 | 98 | 94 5.5 |
| 28100 | 99 | | 51.0 | | 2230 | 99 | |
| 28380 | 100 | 27140 | 51.3 | 21500 | 2226 | 100 | 100 4.0 |
| 28660 | 101 | | 51.9 | | 2222 | 101 | |
| 28940 | 102 | 27800 | 52.5 | 21300 | 2219 | 102 | 96 3.0 |
| 29220 | 103 | | 52.9 | | 2218 | 103 | |
| 29500 | 104 | 28480 | 53.5 | 21000 | 2213 | 104 | 66 4.0 |
| 29780 | 105 | | 54.2 | | 2214 | 105 | |

| Elevation angle | Smoothed | |
|-----------------|----------|----------|
| | Observed | Smoothed |
| 106 | 550 | |
| 107 | 555 | |
| 108 | 562 | |
| 109 | 569 | |
| 110 | 577 | |
| 111 | 585 | |
| 112 | 589 | |
| 113 | 592 | |
| 114 | | |
| 115 | | |

6. Type of equip.,
WBRT-5
GMD-1A
GMD-1,
SCR-65
theodolite

* Altitude
in km.,

Punched Card Data

| Altitude# | Direction (degrees) | Speed (m.p.s.) | Card columns | Altitude# | Direction (degrees) | Speed (m.p.s.) |
|-------------------|---------------------|----------------|-------------------|------------|---------------------|----------------|
| Card No. 3 | | | 15 | Card No. 4 | | |
| Type of equipment | 8 | 16 | Type of equipment | 8 | | |
| 19 224 | 2 | 17-21 31 | 57 | 5 | | |
| 20 171 | 4 | 22-26 32 | | | | |
| 21 156 | 2 | 27-31 33 | | | | |
| 22 130 | 2 | 32-36 34 | | | | |
| 23 70 | 4 | 37-41 35 | | | | |
| 24 69 | 7 | 42-46 36 | | | | |
| 25 76 | 4 | 47-51 37 | | | | |
| 26 82 | 6 | 52-56 38 | | | | |
| 27 90 | 5 | 57-61 39 | | | | |
| 28 100 | 3 | 62-66 40 | | | | |
| 29 57 | 5 | 67-71 41 | | | | |
| 30 45 | 5 | 72-76 42 | | | | |

Maximum Wind Speed Data

| | | |
|--|--|--|
| Min. alt. wind speed 45 m.p.s. or more (m.) | | |
| Alt. of maximum wind speed (m.) | | |
| Dir. (degrees) and speed (m.p.s.) of Max. wind | | |
| Max. alt. wind speed 45 m.p.s. or more (m.) | | |

Identification

COLUMBIA, MO.

38° 58' N 92° 22' W
LST-90th Meridian El. 238
Rawinsonde WBRT-57U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAUWINDS-ALOFT COMPUTATION SHEET
(LAND STATION FORM)

WBAN-20

| Actual time th mer. | Year | Month | Day | Time |
|---------------------------|------|-------|-----|------|
| Scheduled (G.M.T.) | 1964 | SEP | 7 | 1715 |
| Ascension No. | 1964 | SEP | 8 | 00 |
| | | | 933 | |

Page
2

| Slant range (M.) (yds.) | Pibal ht. above sfc. (m.) | Minute | Rawin ht. above surface (m.) | Elevation angle° | | Distance from observation point (m.) | Azimuth angle ° | Minute | Wind | |
|----------------------------|---------------------------------|--------|---------------------------------------|------------------|----------|---|-----------------------|--------|-----------------------|-------------------|
| | | | | Observed | Smoothed | | | | Direction° 360°= N | Speed (m.p.s.) |
| | 14570 | 51 | 12710 | 33.7 | | 18800 | 218.4 | 51 | | |
| | 14860 | 52 | | 34.0 | | | 219.2 | 52 | 280 | 4.0 |
| | 15145 | 53 | 13230 | 34.4 | | 19200 | 219.9 | 53 | | |
| | 15425 | 54 | 13490 | 34.6 | | 19430 | 220.4 | 54 | 278 | 5.5 |
| | 15705 | 55 | 13750 | 35.0 | | 19670 | 221.6 | 55 | | |
| | 15985 | 56 | 14020 | 35.2 | | 19900 | 223.2 | 56 | 279 | 7.5 |
| | 16265 | 57 | | 35.6 | | | 225.5 | 57 | | |
| | 16545 | 58 | 14520 | 36.0 | | 20000 | 226.8 | 58 | 285 | 9.0 |
| | 16825 | 59 | | 36.1 | | | 227.3 | 59 | | |
| | 17105 | 60 | 15020 | 36.0 | | 20600 | 227.6 | 60 | 280 | 5.0 |
| | 17385 | 61 | | 35.9 | | | 228.2 | 61 | | |
| | 17670 | 62 | 15530 | 36.0 | | 21300 | 228.6 | 62 | 265 | 7.0 |
| | 17950 | 63 | | 35.9 | | | 228.7 | 63 | | |
| | 18235 | 64 | 16140 | 35.9 | | 22200 | 229.4 | 64 | 250 | 7.0 |
| | 18515 | 65 | | 35.8 | | | 230.2 | 65 | | |
| | 18795 | 66 | 16680 | 36.0 | | 22800 | 230.7 | 66 | 247 | 5.5 |
| | 19080 | 67 | | 36.2 | | | 231.0 | 67 | | |
| | 19360 | 68 | 17220 | 36.4 | | 23300 | 231.2 | 68 | 243 | 5.0 |
| | 19645 | 69 | | 36.5 | | | 230.6 | 69 | | |
| | 19925 | 70 | 17780 | 36.5 | | 23900 | 230.8 | 70 | 240 | 4.0 |
| | 20210 | 71 | | 36.6 | | | 231.6 | 71 | | |
| | 20490 | 72 | 18300 | 37.1 | | 24100 | 231.6 | 72 | 239 | 3.0 |
| | 20775 | 73 | | 37.3 | | | 231.3 | 73 | | |
| | 21055 | 74 | 18970 | 37.5 | | 24550 | 231.2 | 74 | 222 | 2.5 |
| | 21340 | 75 | | 37.7 | | | 231.1 | 75 | | |
| | 21620 | 76 | 19520 | 38.3 | | 24700 | 230.8 | 76 | 178 | 3.5 |
| | 21905 | 77 | | 38.7 | | | 230.7 | 77 | | |
| | 22185 | 78 | 20080 | 38.9 | | 24800 | 229.7 | 78 | 165 | 3.0 |
| | 22470 | 79 | | 39.0 | | | 229.5 | 79 | | |
| | 22750 | 80 | 20700 | 39.1 | | 25300 | 229.3 | 80 | 157 | 2.0 |
| | 23040 | 81 | | 39.5 | | | 229.1 | 81 | | |

| Wind Direction° 360°= N | Speed (m.p.s.) | Minute | Azimuth angle ° | Distance from observation Point (m.) | Elevation angle° Observed | Smoothed | Rawin ht. above surface (m.) | Minute | Slant range (m.) (yds.) |
|-------------------------------|-------------------|--------|-----------------------|---|------------------------------|----------|------------------------------------|--------|-------------------------------|
| 42 | 5.5 | 106 | 221.0 | 20700 | 55.0 | | 29000 | 106 | |
| | | 107 | 220.6 | | 55.5 | | | 107 | |
| 45 | 5.0 | 108 | 221.2 | 19700 | 56.2 | | 29680 | 108 | |
| | | 109 | 221.3 | | 56.9 | | | 109 | |
| 52 | 5.0 | 110 | 220.9 | 19200 | 57.7 | | 30240 | 110 | |
| | | 111 | 220.2 | | 58.5 | | | 111 | |
| 58 | 5.5 | 112 | 219.3 | 18600 | 58.9 | | 30860 | 112 | |
| | | 113 | 219.1 | | 59.2 | | | 113 | |
| | | 114 | | 18400 | | | 31140 | 114 | |
| | | 115 | | | | | 238 | 115 | 31098 |

*Stamp the
following:

1. Name of Station
2. Lat. and long.
3. Local Standard time, meridian
4. El. of S.
5. Method of obs., e. rawinsonde, rawin, p.
6. Type of equip., WBRT-57, GMD-1A, GMD-1, SCR-65, theodolite

Altitude
in km., r

Punched Card Data

Stamp the following:

Name of Station

Lat. and long.

Local Standard time, 9:10th meridian

El. of Station

Method of obs., e.g., rawinsonde, rawin, pibal

Type of equip., e.g., WBRT-57, GMD-1A, GMD-1, SCR-658, theodolite

Termination

*Identification

COLUMBIA, MO.
38° 58' N 92° 22' W
LST-90th Meridian El. 238
Rawinsonde WBRT-57

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

WINDS-ALOFT COMPUTATION SHEET
(LANDSTATION FORM)
WBAN-20

| Actual time with mer. | Year | Month | Day | Time |
|-----------------------|------|-------|-----|------|
| Scheduled (G.M.T.) | 1964 | SEP | 8 | 0515 |
| | 1964 | SEP | 8 | 12 |
| Ascension No. | 935 | | | |

Type of balloon 600CR

Orientation, 360° = South

Rawinsonde Time-Altitude Data

| Slant range (m.) (yds.) | Pibal ht. above sfc. (m.) 30 gram 100 gram | Minute | Rawin ht. above surface (m.) | Elevation angle ° | | Distance from observation point (m.) | Azimuth angle ° | Minute | Wind | | Contact | Pressure (mb.) | Altitude (m., m.s.l.) | Elapsed time (min.) |
|-------------------------|--|--------|------------------------------|-------------------|----------|--------------------------------------|-----------------|--------|-----------------------|----------------|---------|----------------|-----------------------|---------------------|
| | | | | Observed | Smoothed | | | | Direction ° 360° = N. | Speed (m.p.s.) | | | | |
| | 216 350 | 1 | 240 | 19.35 | | 680 | 207.7 | 1 | 215 | 12.9 | 65 | 990 | 238 | 0.0 |
| | 414 670 | 2 | 480 | 17.20 | | 1540 | 214.9 | 2 | 221 | 14.8 | 10 | 935 | 730 | 2.2 |
| | 612 980 | 3 | 730 | 16.45 | | 2450 | 217.3 | 3 | 222 | 14.2 | 15 | 668 | 1360 | 4.9 |
| | 801 1285 | 4 | 960 | 16.35 | | 3240 | 219.6 | 4 | 223 | 13.8 | 20 | 802 | 2030 | 7.4 |
| | 990 1505 | 5 | 1200 | 16.40 | | 4100 | 219.8 | 5 | 226 | 13.0 | 25 | 742 | 2680 | — |
| | 1170 1880 | 6 | 1470 | 17.15 | | 4800 | 221.4 | 6 | 228 | 10.1 | 30 | 684 | 3370 | 12.9 |
| | 1350 2170 | 7 | 1700 | 17.80 | | 5300 | 221.9 | 7 | 230 | 8.3 | 35 | 628 | 4070 | 15.5 |
| | 1530 2455 | 8 | 1960 | 18.75 | | 5800 | 222.7 | 8 | 233 | 7.6 | 40 | 576 | 4760 | 18.1 |
| | 1710 2740 | 9 | 2200 | 19.65 | | 6200 | 223.5 | 9 | 243 | 6.1 | 45 | 527 | 5460 | 21.1 |
| | 1890 3020 | 10 | 2480 | 20.9 | | 6500 | 224.9 | 10 | 250 | 4.6 | 50 | 479 | 6220 | 23.9 |
| | 2070 3300 | 11 | 2710 | 22.1 | | 6700 | 225.8 | 11 | 242 | 2.6 | 55 | 437 | 6920 | 26.7 |
| | 2250 3580 | 12 | 2970 | 23.3 | | 6800 | 225.7 | 12 | 243 | 2.5 | 60 | 394 | 7710 | 29.6 |
| | 2430 3855 | 13 | 3220 | 24.4 | | 7100 | 226.8 | 13 | 237 | 2.5 | 65 | 356 | 8460 | 32.5 |
| | 2610 4130 | 14 | 3480 | 25.7 | | 7200 | 226.5 | 14 | 202 | 1.8 | 70 | 319 | 9260 | 35.6 |
| | 2790 4405 | 15 | 3740 | 26.9 | | 7300 | 226.1 | 15 | 194 | 1.8 | 75 | 285 | 10040 | 38.6 |
| | 2970 4675 | 16 | 4000 | 28.3 | | 7350 | 225.0 | 16 | 197 | 1.9 | 80 | 252 | 10840 | 41.7 |
| | 3150 4945 | 17 | 4250 | 29.5 | | 7500 | 225.2 | 17 | 189 | 3.2 | 85 | 224 | 11650 | 44.7 |
| | 3330 5215 | 18 | 4520 | 30.4 | | 7700 | 223.8 | 18 | 188 | 5.1 | 90 | 197 | 12510 | 47.9 |
| | 3510 5485 | 19 | 4800 | 30.9 | | 8000 | 222.6 | 19 | 195 | 4.6 | 95 | 172 | 13380 | 51.0 |
| | 3690 5755 | 20 | 5030 | 31.5 | | 8200 | 221.9 | 20 | 215 | 6.0 | 100 | 149 | 14250 | 54.0 |
| | 3870 6025 | 21 | 5300 | 31.6 | | 8700 | 221.8 | 21 | 225 | 6.0 | 105 | 129 | 15120 | 57.1 |
| | 4050 6295 | 22 | 5590 | 31.9 | | 8900 | 222.5 | 22 | 237 | 4.8 | 110 | 110 | 16070 | 60.4 |
| | 4230 6565 | 23 | 5870 | 32.3 | | 9200 | 223.7 | 23 | 257 | 5.0 | 115 | 93 | 17060 | 63.7 |
| | 4410 6835 | 24 | 6080 | 32.9 | | 9400 | 224.5 | 24 | 244 | 3.0 | 120 | 77 | 18200 | 67.0 |
| | 4590 7105 | 25 | 6320 | 33.7 | | 9550 | 224.6 | 25 | 229 | 1.7 | 125 | 63 | 19380 | 70.3 |
| | 4770 7375 | 26 | 6600 | 34.2 | | 9700 | 224.8 | 26 | 225 | 1.4 | 130 | 50 | 20101 | 73.6 |
| | 4950 7645 | 27 | 6860 | 34.8 | | 9800 | 224.9 | 27 | | | 135 | 37 | 22820 | 81.0 |
| | 5130 7915 | 28 | | 35.6 | | | 225.4 | 28 | 236 | 1.4 | 140 | 26 | 25200 | 88.3 |
| | | | | | | | 225.7 | 29 | | | 145 | 13 | 29771 | 91.1 |

El. of Station
Method of
obs., e.g.,
rawinsonde,
rawin, pibal
Type of
equip., e.g.,
WBRT-57,
GMD-1A,
GMD-1,
SCR-658,
theodolite

Termination
Alt. for
150 & 300 m.
are with
respect to
ground, alt.
for other
standard levels
are in km., msl.

Reason for termination

computer H. J. EMERY
erifier R. S. VENCH

| | | | | | | | | |
|------|----|-------|------|-------|-------|----|-----|------|
| 2250 | 12 | 2970 | 23.3 | 6500 | 225.7 | 12 | 243 | 2.5 |
| 2430 | 13 | 3220 | 24.4 | 7100 | 226.8 | 13 | 237 | 2.5 |
| 2610 | 14 | 3480 | 25.7 | 7700 | 226.5 | 14 | 202 | 1.8 |
| 2790 | 15 | 3740 | 26.9 | 7300 | 226.1 | 15 | 194 | 1.8 |
| 2970 | 16 | 4000 | 28.3 | 7350 | 225.0 | 16 | 197 | 1.9 |
| 3150 | 17 | 4250 | 29.5 | 7500 | 225.2 | 17 | 189 | 3.2 |
| 3330 | 18 | 4520 | 30.4 | 7700 | 223.8 | 18 | 188 | 5.1 |
| 3510 | 19 | 4800 | 30.9 | 8000 | 222.6 | 19 | 175 | 4.6 |
| 3690 | 20 | 5030 | 31.5 | 8200 | 221.9 | 20 | 215 | 6.0 |
| 3870 | 21 | 5300 | 31.6 | 8700 | 221.8 | 21 | 225 | 6.0 |
| 4050 | 22 | 5590 | 31.9 | 8900 | 222.5 | 22 | 253 | 4.8 |
| 4230 | 23 | 5820 | 32.3 | 9200 | 223.7 | 23 | 257 | 5.0 |
| 4410 | 24 | 6080 | 32.9 | 9400 | 224.5 | 24 | 244 | 3.0 |
| 4590 | 25 | 6320 | 33.7 | 9550 | 224.6 | 25 | 227 | 1.7 |
| 4770 | 26 | 6600 | 34.2 | 9700 | 224.8 | 26 | 225 | 1.4 |
| 4950 | 27 | 6860 | 34.8 | 9800 | 224.9 | 27 | | |
| 5130 | 28 | | 35.6 | | 225.4 | 28 | 236 | 1.4 |
| 5310 | 29 | 7570 | 36.0 | 10000 | 225.7 | 29 | | |
| 5490 | 30 | | 36.4 | | 225.9 | 30 | 232 | 2.8 |
| 5670 | 31 | 7900 | 36.8 | 10600 | 225.5 | 31 | | |
| 5850 | 32 | | 37.6 | | 225.8 | 32 | 343 | 4.0 |
| 6030 | 33 | 8430 | 38.4 | 10600 | 225.9 | 33 | | |
| 6210 | 34 | | 39.4 | | 226.6 | 34 | 352 | 5.3 |
| 6390 | 35 | 8930 | 40.5 | 10300 | 227.8 | 35 | | |
| 6570 | 36 | | 41.4 | | 228.9 | 36 | 323 | 3.0 |
| 6750 | 37 | 9440 | 42.4 | 10300 | 230.0 | 37 | | |
| 6930 | 38 | | 43.2 | | 231.5 | 38 | 324 | 5.5 |
| 7110 | 39 | 9970 | 43.9 | 10250 | 233.7 | 39 | | |
| 7290 | 40 | | 44.7 | | 236.9 | 40 | 328 | 8.8 |
| 7470 | 41 | 10510 | 45.5 | 10250 | 239.9 | 41 | | |
| 7650 | 42 | | 46.4 | | 242.9 | 42 | 330 | 8.8 |
| 7830 | 43 | 11020 | 47.0 | 10250 | 245.8 | 43 | | |
| 8010 | 44 | | 47.4 | | 247.5 | 44 | 326 | 5.5 |
| 8190 | 45 | 11540 | 47.8 | 10400 | 249.4 | 45 | | |
| 8370 | 46 | | 47.9 | | 251.0 | 46 | 284 | 5.0 |
| 8550 | 47 | 12080 | 48.0 | 10800 | 251.7 | 47 | | |
| 8730 | 48 | | 48.0 | | 252.2 | 48 | 224 | 4.3 |
| 8910 | 49 | 12660 | 47.9 | 11400 | 253.3 | 49 | | |
| 9090 | 50 | | 47.5 | | 255.1 | 50 | 303 | 10.0 |

Coded Data for Transmission

| | | | | | | | | | |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PP22445 | 12941 | 1807 | 22227 | 2228 | 42226 | 2323 | 62318 | 2316 | 82412 |
| 2510 | 02505 | 22204 | 41904 | 61710 | 82211 | 02110 | 32302 | 52402 | 03510 |
| 53317 | 02810 | 52920 | 02814 | 32612 | 07777 | 01803 | 00304 | 63303 | 00715 |
| 20714 | 60802 | | | | | | | | |

| | | | |
|-----|-----|-------|------|
| 70 | 319 | 9260 | 35.6 |
| 75 | 255 | 10040 | 38.6 |
| 80 | 257 | 10840 | 41.7 |
| 85 | 224 | 11650 | 44.7 |
| 90 | 197 | 12510 | 47.9 |
| 95 | 172 | 13380 | 51.0 |
| 100 | 149 | 14250 | 54.6 |
| 105 | 129 | 15120 | 57.1 |
| 110 | 110 | 16070 | 60.4 |
| 115 | 93 | 17060 | 63.7 |
| 120 | 77 | 18200 | 67.2 |
| 125 | 62 | 19430 | 71.2 |
| 130 | 50 | 20701 | 75.7 |
| 135 | 37 | 22820 | 81.0 |
| 140 | 26 | 25200 | 88.7 |
| 145 | 13 | 29771 | 97.1 |
| 150 | 13 | 29771 | 99.1 |

Punched Card Data

| Altitude # | Direction (degrees) | Speed (m.p.s.) | Card columns | Altitude # | Direction (degrees) | Speed (m.p.s.) |
|-------------------|---------------------|----------------|--------------|-------------------|---------------------|----------------|
| Card No. 1 | | | 15 | Card No. 2 | | |
| Type of equipment | 3 | | 16 | Type of equipment | | |
| alt. | 190 | 3 | 17-21 | 7 | 227 | 1 |
| 150 M. | 170 | 5 | 22-26 | 8 | 232 | 3 |
| 300 M. | 214 | 13 | 27-31 | 9 | 350 | 5 |
| 0.5 | 212 | 12 | 32-36 | 10 | 324 | 5 |
| 1.0 | 214 | 14 | 37-41 | 11 | 332 | 9 |
| 1.5 | 227 | 12 | 42-46 | 12 | 210 | 5 |
| 2.0 | 230 | 8 | 47-51 | 13 | 270 | 8 |
| 2.5 | 244 | 6 | 52-56 | 14 | 288 | 1 |
| 3 | 247 | 3 | 57-61 | 15 | 284 | 8 |
| 4 | 194 | 2 | 62-66 | 16 | 264 | 6 |
| 5 | 192 | 5 | 67-71 | 17 | 257 | 6 |
| 6 | 256 | 5 | 72-76 | 18 | 207 | 3 |

Maximum Wind Speed Data

| | |
|--|--|
| Min. alt. wind speed 45 m.p.s. or more (m.) | |
| Alt. of maximum wind speed (m.) | |
| Dir. (degrees) and speed (m.p.s.) of Max. wind | |
| Max. alt. wind speed 45 m.p.s. or more (m.) | |
| Enter check if additional levels appear on reverse side. | |

UNCLAS EFTO

11 SEP 81 21 01z

WPA054

CZCSQJ279ZCJYA823

RR RUCDSQ

DE RUEAGL 58 14/1803Z

R 141751Z

FM AFSC

TO FTD WPAFB OHIO

BT

UNCLAS E F T O SCFTC 74-9-13.

FOR TDEW (UFO). THE FOLLOWING MSG FROM 351 STRATMSLWG

WHITEMAN AFB MO IS QUOTED FOR YOUR INFORMATION. QUOTE. UNCLAS

BC 00001. AFSC FOR SCFD & SCFT; CSAF FOR AFNIN;

USAF FOR SAFOI

~~SAFOI~~ SAFOIPB & SAFOIPC. UFO. IN ACCORDANCE WITH PARA

W

ITH PARA

14, AFR -00--, THE FOLLOWING IS SUBMITTED: IARA A, (1) ROUND, (2) BLANK, (3) BLUE, (4) ONE, (5) N/A, (6) BLUE LIG T ABOUT THE SIZE OF AN AUTOMMBILE HEADLIGHT, (7) BLANK, (8) NONE, (9) APPEARED TO EXPLODE IN MID AIR AND LAND IN FIELD, KEPT MOVING ABOUT 20 FEET OFF GROUND AT SITE I-10 (ABOUT 15 MILES SOUTHWEST OF WHITEMAN AFB

COLUMBIA, MO.
38° 58' N 92° 22' W
LST-90th Meridian El. 238
Rawinsonde WBRT-57

WINDS-ALOFT COMPUTATION SHEET
(LAND STATION FORM)
WBAN-20

| | Year | Month | Day | Time |
|---------------------------|------|-------|-----|------|
| Actual time th mer. | 1964 | SEP | 8 | 0515 |
| Scheduled (G.M.T.) | 1964 | SEP | 8 | 12 |
| Ascension No. 935 | | | | |

Page
2

| Slant range (M.) (yds.) | Pibal ht. above sfc. (m.) | Minute | Raw in ht. above surface (m.) | Elevation angle° | | Distance from observation point (m.) | Azimuth angle ° | Minute | Wind | |
|----------------------------|---------------------------------|--------|--|------------------|----------|---|-----------------------|--------|-----------------------|-------------------|
| | 100- gram | | | Observed | Smoothed | | | | Direction° 360°= N | Speed (m.p.s.) |
| | 14570 | 51 | 13200 | 47.7 | | 12000 | 256.9 | 51 | | |
| | 14860 | 52 | 13470 | 47.4 | | 12400 | 255.9 | 52 | 306 | 10.0 |
| | 15145 | 53 | 13780 | 47.1 | | 12800 | 261.0 | 53 | | |
| | 15425 | 54 | 14000 | 46.8 | | 13200 | 262.9 | 54 | 289 | 8.0 |
| | 15705 | 55 | | 46.6 | | | 263.1 | 55 | | |
| | 15985 | 56 | 14680 | 46.2 | | 14100 | 262.8 | 56 | 283 | 7.8 |
| | 16265 | 57 | | 45.7 | | | 263.1 | 57 | | |
| | 16545 | 58 | 15230 | 45.4 | | 15000 | 263.4 | 58 | 269 | 6.0 |
| | 16825 | 59 | | 45.3 | | | 263.6 | 59 | | |
| | 17105 | 60 | 15760 | 45.2 | | 15500 | 263.5 | 60 | 262 | 6.2 |
| | 17385 | 61 | | 45.0 | | | 263.5 | 61 | | |
| | 17670 | 62 | 16400 | 44.6 | | 16500 | 263.5 | 62 | 264 | 6.0 |
| | 17950 | 63 | | 44.6 | | | 263.6 | 63 | | |
| | 18235 | 64 | 16970 | 44.5 | | 17200 | 263.4 | 64 | 247 | 5.0 |
| | 18515 | 65 | | 45.0 | | | 263.1 | 65 | | |
| | 18795 | 66 | 17600 | 45.0 | | 17600 | 263.0 | 66 | 220 | 3.3 |
| | 19080 | 67 | | 45.6 | | | 261.5 | 67 | | |
| | 19360 | 68 | 18240 | 45.9 | | 17700 | 261.6 | 68 | 154 | 1.0 |
| | 19645 | 69 | | 46.4 | | | 261.5 | 69 | | |
| | 19925 | 70 | 18900 | 46.7 | | 17800 | 261.2 | 70 | 121 | 1.5 |
| | 20210 | 71 | | 47.0 | | | 261.6 | 71 | | |
| | 20490 | 72 | 19500 | 47.0 | | 18000 | 262.7 | 72 | 101 | 2.0 |
| | 20775 | 73 | | 47.5 | | | 263.6 | 73 | | |
| | 21055 | 74 | 20180 | 48.6 | | 17500 | 263.1 | 74 | 85 | 2.5 |
| | 21340 | 75 | | 49.9 | | | 262.1 | 75 | | |
| | 21620 | 76 | 20870 | 50.9 | | 16800 | 260.8 | 76 | 54 | 2.5 |
| | 21905 | 77 | | 51.4 | | | 261.0 | 77 | | |
| | 22185 | 78 | 21540 | 51.5 | | 17200 | 260.8 | 78 | 347 | 2.0 |
| | | | | | | | 261.6 | 79 | | |

| Slant range (m.) (yds.) | Minute | Row in int. above surface (m.) | Elevation angle° | | Distance from observation point (m.) | Azimuth angle ° | Wind Direction 360° = N | Wind Speed (m.p.s.) |
|-------------------------------|--------|--------------------------------------|------------------|----------|---|-----------------------|-------------------------------|---------------------------|
| | | | Observed | Smoothed | | | | |
| | 106 | | | | | | | |
| | 107 | | | | | | | |
| | 108 | | | | | | | |
| | 109 | | | | | | | |
| | 110 | | | | | | | |
| | 111 | | | | | | | |
| | 112 | | | | | | | |
| | 113 | | | | | | | |
| | 114 | | | | | | | |
| | 115 | | | | | | | |

6. Type of equip.,
WBRT-5
GMD-1A
GMD-1,
SCR-650
theodolite

* Altitudes
in km., n.

| | | | | | | | | |
|-------|-----|-------|------|--------|-------|-----|-----|------|
| 17950 | 63 | | 44.6 | | 263.6 | 63 | | |
| 18235 | 64 | 16970 | 44.5 | 17200 | 263.5 | 64 | 247 | 5.0 |
| 18515 | 65 | | 45.0 | | 263.1 | 65 | | |
| 18795 | 66 | 17600 | 45.0 | 17600 | 263.0 | 66 | 220 | 3.3 |
| 19080 | 67 | | 45.6 | | 261.5 | 67 | | |
| 19360 | 68 | 18240 | 45.9 | 17700 | 261.6 | 68 | 154 | 1.0 |
| 19645 | 69 | | 46.4 | | 261.5 | 69 | | |
| 19925 | 70 | 18900 | 46.7 | 17800 | 261.2 | 70 | 121 | 1.5 |
| 20210 | 71 | | 47.0 | | 261.6 | 71 | | |
| 20490 | 72 | 19500 | 47.0 | 18000 | 262.7 | 72 | 101 | 2.0 |
| 20775 | 73 | | 47.5 | | 263.6 | 73 | | |
| 21055 | 74 | 20180 | 48.6 | 17500 | 263.1 | 74 | 85 | 2.5 |
| 21340 | 75 | | 49.9 | | 262.1 | 75 | | |
| 21620 | 76 | 20870 | 50.9 | 16800 | 260.8 | 76 | 54 | 2.5 |
| 21905 | 77 | | 51.4 | | 261.0 | 77 | | |
| 22185 | 78 | 21540 | 51.5 | 17200 | 260.8 | 78 | 347 | 2.0 |
| 22470 | 79 | | 51.7 | | 261.2 | 79 | | |
| 22750 | 80 | 22280 | 52.3 | 17200 | 261.3 | 80 | 320 | 2.0 |
| 23040 | 81 | | 52.8 | | 261.4 | 81 | | |
| 23320 | 82 | 23030 | 53.2 | 17200 | 263.6 | 82 | 333 | 2.0 |
| 23600 | 83 | | 53.9 | | 263.6 | 83 | | |
| 23880 | 84 | 23650 | 54.0 | 17200 | 264.0 | 84 | 87 | 4.0 |
| 24160 | 85 | | 54.9 | | 263.5 | 85 | | |
| 24440 | 86 | 24260 | 56.3 | 16200 | 263.2 | 86 | 97 | 12.5 |
| 24730 | 87 | | 57.7 | | 261.7 | 87 | | |
| 25010 | 88 | 25000 | 60.1 | 14300 | 261.3 | 88 | 85 | 13.5 |
| 25300 | 89 | | 61.8 | | 261.2 | 89 | | |
| 25580 | 90 | 25810 | 63.3 | 129500 | 263.3 | 90 | 62 | 10.8 |
| 25860 | 91 | | 64.5 | | 264.9 | 91 | | |
| 26140 | 92 | 26590 | 65.7 | 11900 | 265.2 | 92 | 79 | 8.6 |
| 26420 | 93 | | 67.0 | | 265.0 | 93 | | |
| 26700 | 94 | 27480 | 68.2 | 10900 | 264.1 | 94 | 90 | 6.5 |
| 26980 | 95 | | 69.1 | | 263.7 | 95 | | |
| 27260 | 96 | 28230 | 69.9 | 10300 | 264.6 | 96 | 82 | 4.4 |
| 27540 | 97 | | 70.6 | | 265.4 | 97 | | |
| 27820 | 98 | 29030 | 71.1 | 9900 | 264.4 | 98 | 86 | 3.6 |
| 28100 | 99 | 29440 | 71.7 | 9500 | 265.4 | 99 | | |
| 28380 | 100 | 238 | | | | 100 | | |
| 28660 | 101 | 29268 | | | | 101 | | |
| 28940 | 102 | | | | | 102 | | |
| 29220 | 103 | | | | | 103 | | |
| 29500 | 104 | | | | | 104 | | |
| 29780 | 105 | | | | | 105 | | |

| Slant range (m.) (yds.) | Elevation angle° | Elevation angle° | | Raw in ht. above surface (m.) | Min in |
|-------------------------------|------------------|------------------|----------|-------------------------------------|-----------|
| | | Observed | Smoothed | | |
| | | | | | 106 |
| | | | | | 107 |
| | | | | | 108 |
| | | | | | 109 |
| | | | | | 110 |
| | | | | | 111 |
| | | | | | 112 |
| | | | | | 113 |
| | | | | | 114 |
| | | | | | 115 |

Punched Card Data

| Altitude# | Direction (degrees) | Speed (m.p.s.) | Card columns | Altitude# | Direction (degrees) | Speed (m.p.s.) |
|----------------------|------------------------|-------------------|-----------------|----------------------|------------------------|-------------------|
| Card No. 3 | | | 15 | Card No. 4 | | |
| Type of equipment | 8 | | 16 | Type of equipment | 8 | |
| 19 | 132 | 1 | 17-21 | 31 | | |
| 20 | 96 | 2 | 22-26 | 32 | | |
| 21 | 60 | 3 | 27-31 | 33 | | |
| 22 | 354 | 1 | 32-36 | 34 | | |
| 23 | 326 | 2 | 37-41 | 35 | | |
| 24 | 85 | 4 | 42-46 | 36 | | |
| 25 | 92 | 13 | 47-51 | 37 | | |
| 26 | 64 | 11 | 52-56 | 38 | | |
| 27 | 82 | 8 | 57-61 | 39 | | |
| 28 | 88 | 6 | 62-66 | 40 | | |
| 29 | 84 | 4 | 67-71 | 41 | | |
| 30 | | | 72-76 | 42 | | |

Maximum Wind Speed Data

| | | |
|---|--|--|
| Min. alt. wind speed 45 m.p.s. or more (m.) | | |
| Alt. of maximum wind speed (m.) | | |
| Dir. (degrees) and speed (m.p.s.) of Max. wind | | |
| Max. alt. wind speed 45 m.p.s. or more (m.) | | |

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6. Type of
equip.,
WBRT-5
GMD-1A
GMD-1,
SCR-65
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Altitudes
in km., n

UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
Airport Station
Springfield, Missouri

September 28, 1964

Colonel Eric T. de Jonckheere
Deputy for Technology & Subsystems
Foreign Technology Division
United States Air Force
Wright-Patterson AFB, Ohio

Dear Colonel:

Reference is made to your letter of September 25, 1964, requesting wind data. It is assumed that you are interested in upper air data. Copies for the period requested are enclosed.

Yours truly,

Ray C. Nelson

Ray C. Nelson
Meteorologist in Charge

Encls

TDEW

Wind Data for Springfield, Missouri, 7 - 8 September 1964 25 Sep 64

U S Weather Station
Springfield, Missouri

1. We would like to have copies of the wind data for 7 - 8 Sep 64. Contact with the U S Weather Records Center at Ashville, North Carolina, revealed that these records are not forwarded for approximately thirty days.

2. We are attaching a self addressed label for your convenience in mailing. Thank you for your cooperation in this matter.

FOR THE COMMANDER

ERIC T de JONCKHEERE
Colonel, USAF
Deputy for Technology
and Subsystems

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ST. LOUIS

U.S. DEPARTMENT OF COMMERCE
BUREAU OF ECONOMIC RESEARCH
WORLD ALUMINUM COMPLETION SHEET
PLANT LOCATION FOR
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| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|

10

| Type of Mission | | Route by plane altitude | Elevation (meters) | | Distance to nearest point | Altitude meters | Direction of wind | Speed (m.p.h.) | Time of day | Weather | Remarks |
|-----------------|------|-------------------------------|--------------------|-----------|---------------------------------|--------------------|----------------------|-------------------|----------------|---------|---------|
| From | To | | Observed | Estimated | | | | | | | |
| 1000 | 1000 | | 25.4 | | 13.5 | 169.9 | 12.1 | 15.0 | 10 | | |
| 1000 | 1000 | | 10.0 | | 14.0 | 172.6 | | 1.2 | 10 | | |
| 1000 | 1000 | | 13.4 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 19.3 | | 18.5 | 171.5 | 12.1 | 2.1 | 10 | | |
| 1000 | 1000 | | 19.3 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 16.6 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 16.6 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 13.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
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| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
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| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
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| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
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| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
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| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
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| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
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| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
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| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
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| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | 10 | | |
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| 1000 | 1000 | | 24.7 | | 17.1 | 170.0 | 12.1 | 1.1 | 10 | | |
| 1000 | 1000 | | 24.7 | | 17.1 | 175.5 | 12.1 | 1.1 | | | |

1. Laid off
2. Lay off
3. Lay off
4. Lay off
5. Lay off
6. Lay off
7. Lay off
8. Lay off
9. Lay off
10. Lay off

The image shows a document page with a header section at the top containing faint, illegible text. Below the header, the page is organized into a grid-like structure with multiple columns and rows. The bottom section of the page contains more text, including the year "2001" and some numbers. The document is heavily degraded with significant noise and artifacts, making most details difficult to discern.

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU
WINDS-ALDT COMPUTATION SHEET
(LAND STATION FORM NO. 1)
WSAH-20

Altitude
in feet
1700
Schedule
10 M.T.S.
1700
As shown No.
1700

| Elevation | | Station | | Orientation | | Wind | | Time-Altitude Date | |
|-----------|----------|---------|----------|-------------|-----------|-----------|-------|--------------------|----------|
| Station | Altitude | Station | Altitude | Observed | Direction | Direction | Speed | Time | Altitude |
| 1 | 1700 | 2 | 1700 | 3 | 4 | 5 | 6 | 7 | 8 |
| 9 | 1700 | 10 | 1700 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 1700 | 18 | 1700 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 1700 | 26 | 1700 | 27 | 28 | 29 | 30 | 31 | 32 |
| 39 | 1700 | 40 | 1700 | 41 | 42 | 43 | 44 | 45 | 46 |
| 53 | 1700 | 54 | 1700 | 55 | 56 | 57 | 58 | 59 | 60 |
| 67 | 1700 | 68 | 1700 | 69 | 70 | 71 | 72 | 73 | 74 |
| 81 | 1700 | 82 | 1700 | 83 | 84 | 85 | 86 | 87 | 88 |
| 95 | 1700 | 96 | 1700 | 97 | 98 | 99 | 100 | 101 | 102 |
| 109 | 1700 | 110 | 1700 | 111 | 112 | 113 | 114 | 115 | 116 |
| 123 | 1700 | 124 | 1700 | 125 | 126 | 127 | 128 | 129 | 130 |
| 137 | 1700 | 138 | 1700 | 139 | 140 | 141 | 142 | 143 | 144 |
| 151 | 1700 | 152 | 1700 | 153 | 154 | 155 | 156 | 157 | 158 |
| 165 | 1700 | 166 | 1700 | 167 | 168 | 169 | 170 | 171 | 172 |
| 179 | 1700 | 180 | 1700 | 181 | 182 | 183 | 184 | 185 | 186 |
| 193 | 1700 | 194 | 1700 | 195 | 196 | 197 | 198 | 199 | 200 |
| 207 | 1700 | 208 | 1700 | 209 | 210 | 211 | 212 | 213 | 214 |
| 221 | 1700 | 222 | 1700 | 223 | 224 | 225 | 226 | 227 | 228 |
| 235 | 1700 | 236 | 1700 | 237 | 238 | 239 | 240 | 241 | 242 |
| 249 | 1700 | 250 | 1700 | 251 | 252 | 253 | 254 | 255 | 256 |
| 263 | 1700 | 264 | 1700 | 265 | 266 | 267 | 268 | 269 | 270 |
| 277 | 1700 | 278 | 1700 | 279 | 280 | 281 | 282 | 283 | 284 |
| 291 | 1700 | 292 | 1700 | 293 | 294 | 295 | 296 | 297 | 298 |
| 305 | 1700 | 306 | 1700 | 307 | 308 | 309 | 310 | 311 | 312 |
| 319 | 1700 | 320 | 1700 | 321 | 322 | 323 | 324 | 325 | 326 |
| 333 | 1700 | 334 | 1700 | 335 | 336 | 337 | 338 | 339 | 340 |
| 347 | 1700 | 348 | 1700 | 349 | 350 | 351 | 352 | 353 | 354 |
| 361 | 1700 | 362 | 1700 | 363 | 364 | 365 | 366 | 367 | 368 |
| 375 | 1700 | 376 | 1700 | 377 | 378 | 379 | 380 | 381 | 382 |
| 389 | 1700 | 390 | 1700 | 391 | 392 | 393 | 394 | 395 | 396 |
| 403 | 1700 | 404 | 1700 | 405 | 406 | 407 | 408 | 409 | 410 |
| 417 | 1700 | 418 | 1700 | 419 | 420 | 421 | 422 | 423 | 424 |
| 431 | 1700 | 432 | 1700 | 433 | 434 | 435 | 436 | 437 | 438 |
| 445 | 1700 | 446 | 1700 | 447 | 448 | 449 | 450 | 451 | 452 |
| 459 | 1700 | 460 | 1700 | 461 | 462 | 463 | 464 | 465 | 466 |
| 473 | 1700 | 474 | 1700 | 475 | 476 | 477 | 478 | 479 | 480 |
| 487 | 1700 | 488 | 1700 | 489 | 490 | 491 | 492 | 493 | 494 |
| 501 | 1700 | 502 | 1700 | 503 | 504 | 505 | 506 | 507 | 508 |
| 515 | 1700 | 516 | 1700 | 517 | 518 | 519 | 520 | 521 | 522 |
| 529 | 1700 | 530 | 1700 | 531 | 532 | 533 | 534 | 535 | 536 |
| 543 | 1700 | 544 | 1700 | 545 | 546 | 547 | 548 | 549 | 550 |
| 557 | 1700 | 558 | 1700 | 559 | 560 | 561 | 562 | 563 | 564 |
| 571 | 1700 | 572 | 1700 | 573 | 574 | 575 | 576 | 577 | 578 |
| 585 | 1700 | 586 | 1700 | 587 | 588 | 589 | 590 | 591 | 592 |
| 599 | 1700 | 600 | 1700 | 601 | 602 | 603 | 604 | 605 | 606 |
| 613 | 1700 | 614 | 1700 | 615 | 616 | 617 | 618 | 619 | 620 |
| 627 | 1700 | 628 | 1700 | 629 | 630 | 631 | 632 | 633 | 634 |
| 641 | 1700 | 642 | 1700 | 643 | 644 | 645 | 646 | 647 | 648 |
| 655 | 1700 | 656 | 1700 | 657 | 658 | 659 | 660 | 661 | 662 |
| 669 | 1700 | 670 | 1700 | 671 | 672 | 673 | 674 | 675 | 676 |
| 683 | 1700 | 684 | 1700 | 685 | 686 | 687 | 688 | 689 | 690 |
| 697 | 1700 | 698 | 1700 | 699 | 700 | 701 | 702 | 703 | 704 |
| 711 | 1700 | 712 | 1700 | 713 | 714 | 715 | 716 | 717 | 718 |
| 725 | 1700 | 726 | 1700 | 727 | 728 | 729 | 730 | 731 | 732 |
| 739 | 1700 | 740 | 1700 | 741 | 742 | 743 | 744 | 745 | 746 |
| 753 | 1700 | 754 | 1700 | 755 | 756 | 757 | 758 | 759 | 760 |
| 767 | 1700 | 768 | 1700 | 769 | 770 | 771 | 772 | 773 | 774 |
| 781 | 1700 | 782 | 1700 | 783 | 784 | 785 | 786 | 787 | 788 |
| 795 | 1700 | 796 | 1700 | 797 | 798 | 799 | 800 | 801 | 802 |
| 809 | 1700 | 810 | 1700 | 811 | 812 | 813 | 814 | 815 | 816 |
| 823 | 1700 | 824 | 1700 | 825 | 826 | 827 | 828 | 829 | 830 |
| 837 | 1700 | 838 | 1700 | 839 | 840 | 841 | 842 | 843 | 844 |
| 851 | 1700 | 852 | 1700 | 853 | 854 | 855 | 856 | 857 | 858 |
| 865 | 1700 | 866 | 1700 | 867 | 868 | 869 | 870 | 871 | 872 |
| 879 | 1700 | 880 | 1700 | 881 | 882 | 883 | 884 | 885 | 886 |
| 893 | 1700 | 894 | 1700 | 895 | 896 | 897 | 898 | 899 | 900 |
| 907 | 1700 | 908 | 1700 | 909 | 910 | 911 | 912 | 913 | 914 |
| 921 | 1700 | 922 | 1700 | 923 | 924 | 925 | 926 | 927 | 928 |
| 935 | 1700 | 936 | 1700 | 937 | 938 | 939 | 940 | 941 | 942 |
| 949 | 1700 | 950 | 1700 | 951 | 952 | 953 | 954 | 955 | 956 |
| 963 | 1700 | 964 | 1700 | 965 | 966 | 967 | 968 | 969 | 970 |
| 977 | 1700 | 978 | 1700 | 979 | 980 | 981 | 982 | 983 | 984 |
| 991 | 1700 | 992 | 1700 | 993 | 994 | 995 | 996 | 997 | 998 |
| 1005 | 1700 | 1006 | 1700 | 1007 | 1008 | 1009 | 1010 | 1011 | 1012 |
| 1019 | 1700 | 1020 | 1700 | 1021 | 1022 | 1023 | 1024 | 1025 | 1026 |
| 1033 | 1700 | 1034 | 1700 | 1035 | 1036 | 1037 | 1038 | 1039 | 1040 |
| 1047 | 1700 | 1048 | 1700 | 1049 | 1050 | 1051 | 1052 | 1053 | 1054 |
| 1061 | 1700 | 1062 | 1700 | 1063 | 1064 | 1065 | 1066 | 1067 | 1068 |
| 1075 | 1700 | 1076 | 1700 | 1077 | 1078 | 1079 | 1080 | 1081 | 1082 |
| 1089 | 1700 | 1090 | 1700 | 1091 | 1092 | 1093 | 1094 | 1095 | 1096 |
| 1103 | 1700 | 1104 | 1700 | 1105 | 1106 | 1107 | 1108 | 1109 | 1110 |
| 1117 | 1700 | 1118 | 1700 | 1119 | 1120 | 1121 | 1122 | 1123 | 1124 |
| 1131 | 1700 | 1132 | 1700 | 1133 | 1134 | 1135 | 1136 | 1137 | 1138 |
| 1145 | 1700 | 1146 | 1700 | 1147 | 1148 | 1149 | 1150 | 1151 | 1152 |
| 1159 | 1700 | 1160 | 1700 | 1161 | 1162 | 1163 | 1164 | 1165 | 1166 |
| 1173 | 1700 | 1174 | 1700 | 1175 | 1176 | 1177 | 1178 | 1179 | 1180 |
| 1187 | 1700 | 1188 | 1700 | 1189 | 1190 | 1191 | 1192 | 1193 | 1194 |
| 1201 | 1700 | 1202 | 1700 | 1203 | 1204 | 1205 | 1206 | 1207 | 1208 |
| 1215 | 1700 | 1216 | 1700 | 1217 | 1218 | 1219 | 1220 | 1221 | 1222 |
| 1229 | 1700 | 1230 | 1700 | 1231 | 1232 | 1233 | 1234 | 1235 | 1236 |
| 1243 | 1700 | 1244 | 1700 | 1245 | 1246 | 1247 | 1248 | 1249 | 1250 |
| 1257 | 1700 | 1258 | 1700 | 1259 | 1260 | 1261 | 1262 | 1263 | 1264 |
| 1271 | 1700 | 1272 | 1700 | 1273 | 1274 | 1275 | 1276 | 1277 | 1278 |
| 1285 | 1700 | 1286 | 1700 | 1287 | 1288 | 1289 | 1290 | 1291 | 1292 |
| 1299 | 1700 | 1300 | 1700 | 1301 | 1302 | 1303 | 1304 | 1305 | 1306 |
| 1313 | 1700 | 1314 | 1700 | 1315 | 1316 | 1317 | 1318 | 1319 | 1320 |
| 1327 | 1700 | 1328 | 1700 | 1329 | 1330 | 1331 | 1332 | 1333 | 1334 |
| 1341 | 1700 | 1342 | 1700 | 1343 | 1344 | 1345 | 1346 | 1347 | 1348 |
| 1355 | 1700 | 1356 | 1700 | 1357 | 1358 | 1359 | 1360 | 1361 | 1362 |
| 1369 | 1700 | 1370 | 1700 | 1371 | 1372 | 1373 | 1374 | 1375 | 1376 |
| 1383 | 1700 | 1384 | 1700 | 1385 | 1386 | 1387 | 1388 | 1389 | 1390 |
| 1397 | 1700 | 1398 | 1700 | 1399 | 1400 | 1401 | 1402 | 1403 | 1404 |
| 1411 | 1700 | 1412 | 1700 | 1413 | 1414 | 1415 | 1416 | 1417 | 1418 |
| 1425 | 1700 | 1426 | 1700 | 1427 | 1428 | 1429 | 1430 | 1431 | 1432 |
| 1439 | 1700 | 1440 | 1700 | 1441 | 1442 | 1443 | 1444 | 1445 | 1446 |
| 1453 | 1700 | 1454 | 1700 | 1455 | 1456 | 1457 | 1458 | 1459 | 1460 |
| 1467 | 1700 | 1468 | 1700 | 1469 | 1470 | 1471 | 1472 | 1473 | 1474 |
| 1481 | 1700 | 1482 | 1700 | 1483 | 1484 | 1485 | 1486 | 1487 | 1488 |
| 1495 | 1700 | 1496 | 1700 | 1497 | 1498 | 1499 | 1500 | 1501 | 1502 |
| 1509 | 1700 | 1510 | 1700 | 1511 | 1512 | 1513 | 1514 | 1515 | 1516 |
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| 1537 | 1700 | 1538 | 1700 | 1539 | 1540 | 1541 | 1542 | 1543 | 1544 |
| 1551 | 1700 | 1552 | 1700 | 1553 | 1554 | 1555 | 1556 | 1557 | 1558 |
| 1565 | 1700 | 1566 | 1700 | 1567 | 1568 | 1569 | 1570 | 1571 | 1572 |
| 1579 | 1700 | 1580 | 1700 | 1581 | 1582 | 1583 | 1584 | 1585 | 1586 |
| 1593 | 1700 | 1594 | 1700 | 1595 | 1596 | 1597 | 1598 | 1599 | 1600 |
| 1607 | 1700 | 1608 | 1700 | 1609 | 1610 | 1611 | 1612 | 1613 | 1614 |
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| 1635 | 1700 | 1636 | 1700 | 1637 | 1638 | 1639 | 1640 | 1641 | 1642 |
| 1649 | 1700 | 1650 | 1700 | 1651 | 1652 | 1653 | 1654 | 1655 | 1656 |
| 1663 | 1700 | 1664 | 1700 | 1665 | 1666 | 1667 | 1668 | 1669 | 1670 |
| 1677 | 1700 | 1678 | 1700 | 1679 | 1680 | 1681 | 1682 | 1683 | 1684 |
| 1691 | 1700 | 1692 | 1700 | 1693 | 1694 | 1695 | 1696 | 1697 | 1698 |
| 1705 | 1700 | 1706 | 1700 | 1707 | 1708 | 1709 | 1710 | 1711 | 1712 |
| 1719 | 1700 | 1720 | 1700 | 1721 | 1722 | 1723 | 1724 | 1725 | 1726 |
| 1733 | 1700 | 1734 | 1700 | 1735 | 1736 | 1737 | 1738 | 1739 | 1740 |
| 1747 | 1700 | 1748 | 1700 | 1749 | 1750 | 1751 | 1752 | 1753 | 1754 |
| 1761 | 1700 | 1762 | 1700 | 1763 | 1764 | 1765 | 1766 | 1767 | 1768 |
| 1775 | 1700 | 1776 | 1700 | 1777 | 1778 | 1779 | 1780 | 1781 | 1782 |
| 1789 | 1700 | 1790 | 1700 | 1791 | 1792 | 1793 | 1794 | 1795 | 1796 |
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| 1817 | 1700 | 1818 | 1700 | 1819 | 1820 | 1821 | 1822 | | |

PAGE 2 RUEAGL 58 UNCLAS E F T O

MISSOURI); PAR B, KEPT CHANGING COURSE, (1) OBJECT AT ABOUT 500 FEET OVER SEVERAL SITES, I-10, I-11, J-8, G-4, G-11; (2) BLANK, (3) BLANK, (4) MOVING WITH THE WIND, (5) BLANK, (6) APPROXIMATELY ONE HOUR; PAR C, (1) SOUND VISUAL, (2) BLANK, 3() N/A; PAR D, (1) 08/0306Z, (2) NIGHT, PAR EN SIGHT I-10, 15 MILES SOUTHWEST OF WHITEMAN AFB MO; PAR F, (1) N/A, (2) REPORTED BY CAPTAIN W.M. BERRY, MISSILE COMBAT CREW COMMANDER, AT I-1 LAUNCH CONTROL FACILITY, 510 MISSILE SQUADRON, 351ST STRATEGIC MISSILE WING. SITE GUARD AT I-11 SIGHTED OBJECT. CONFIRMED BY SEVERAL PERSONS; PAR G, WEATHER AT 0300Z CLEAR 10 1016.3 MB 76/66 190/03 3002, WEATHER AT 0400Z CLEAR, 10 75/66 180/04 3003, WINDS: 2M 210/20, 5M 190-20, 8M 200/20, 10M 200/15, 14M 210/20, 20M 210/15, 25M 230/15, 30M 240/15, 35M 260/08, 40M 270/20, 50M 240/12; PAR H. NONE; PAR I, EFFORTS BY MOBILE STRIKE TEAM TO INTERCEPT FAILED, OBJECT KEPT MOVING, APPEARED TO BE ABOUT 20 FEET OFF OF THE GROUND; PAR J, NONE; PAR K, MAJOR GEORGE B. BAXTER, DIRECTOR OF INFORMATION, 351ST STRATEGIC MISSILE WING, WHITEMAN AFB MO. EVIDENCE OF METEORITE SHOWING DURING THE PERIOD. THE CHASE WAS TURNED OVER TO CIVIL AUTHORITIES AND MSG WAS DIRECTED TO RETURN TO THE LAUNCH CONTROL FACILITY AT 0400Z, BY THE 351ST SMW DIRECTOR OF OPERATIONS; PAR L,

PAGE 3 RUEAGL 58 UNCLAS E F T O

NONE. UNQUOTE.

BT

UNCLAS FETO

WB Form 510-12
10-59
USCGC-1000

Identification
W. J. ...
...
...

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU
WIND-ALOFT COMPUTATION SHEET
(LAND STATION FORM)
WEATHER

| Year | Month | Day | Time |
|------|-------|-----|------|
| 64 | 09 | 7 | 1123 |
| 64 | 09 | 7 | 1800 |

Station No. 861

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| Type of balloon | Pilot | Barometric pressure at surface | Elevation, ft. | | Distance from station, miles | Azimuth angle | Direction | | Wind speed, mph | Wind direction | Temperature, °F | Relative humidity, % | Clouds | Remarks |
|-----------------|-------|--------------------------------|----------------|-----------|------------------------------|---------------|-----------|-------|-----------------|----------------|-----------------|----------------------|--------|---------|
| | | | Observed | Corrected | | | True | Drift | | | | | | |
| | 1 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 2 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 3 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 4 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 5 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 6 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 7 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 8 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 9 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 10 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 11 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 12 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 13 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 14 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 15 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 16 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 17 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 18 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 19 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 20 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 21 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 22 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 23 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 24 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 25 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 26 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 27 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 28 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 29 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 30 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 31 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 32 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 33 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 34 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 35 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 36 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 37 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 38 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 39 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 40 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 41 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 42 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 43 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 44 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 45 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 46 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
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| | 48 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 49 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 50 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 51 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 52 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 53 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 54 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 55 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
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| | 57 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 58 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 59 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 60 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 61 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 62 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 63 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 64 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 65 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 66 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 67 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 68 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 69 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 70 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 71 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 72 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 73 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 74 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 75 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 76 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 77 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 78 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 79 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 80 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 81 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 82 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 83 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 84 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 85 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 86 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 87 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 88 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 89 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 90 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 91 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 92 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 93 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 94 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 95 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 96 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 97 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 98 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 99 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |
| | 100 | 30.0 | 210 | 210 | 2.0 | 160 | 160 | 0 | 10 | 160 | 60 | 100 | | |

The image shows a document page that is severely degraded. It features a grid-like structure, likely a table or ledger, with numerous rows and columns. The text within the grid is mostly illegible due to the high contrast and noise. A prominent horizontal band of dark noise or damage runs across the lower third of the page. Faint, illegible text is visible in the top left corner and along the right edge.

1. *Indica* (Burmese) - *Indica* (Burmese) - *Indica* (Burmese)

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● 日本・大塚製薬株式会

W. H. HARRINGTON, JR., ALBANY, N. Y.

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

THREE-DIMENSIONAL COMPUTATION METHOD

DECLASSIFICATION PAGE

WISCONSIN

| | Year | Month | Day |
|------|------|-------|-----|
| 1934 | 1934 | 03 | 02 |
| 1935 | 1935 | 02 | 02 |

Accession No. 75

1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 26

Page

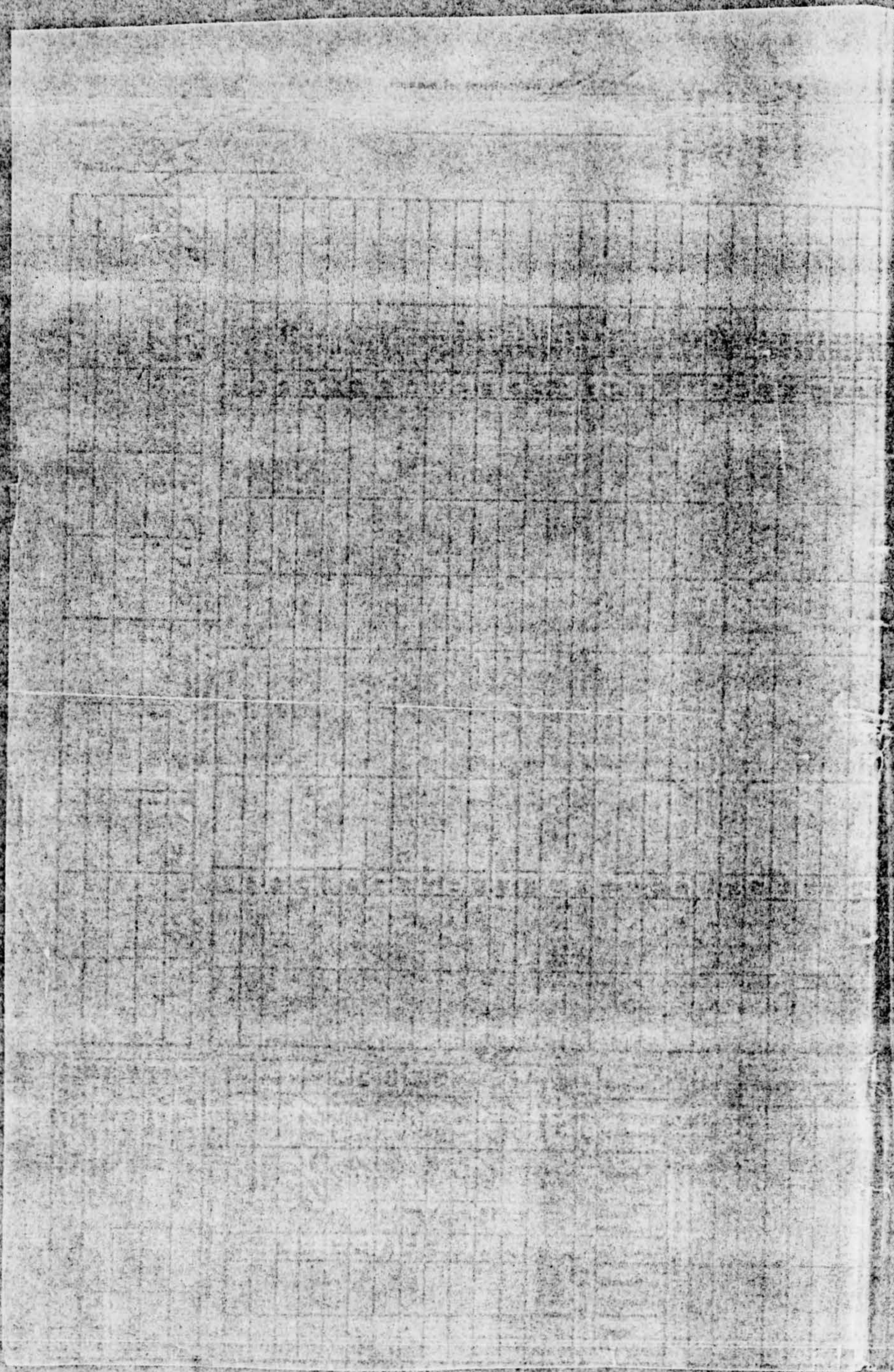
Type of bottom: 103 5/8" mud

Curvature: 0.00

| Station | Time | Altitude | Direction | Speed | Remarks |
|---------|-------|----------|-----------|-------|---------|
| 1 | 10:00 | 100 | 100 | 100 | 100 |
| 2 | 10:05 | 105 | 105 | 105 | 105 |
| 3 | 10:10 | 110 | 110 | 110 | 110 |
| 4 | 10:15 | 115 | 115 | 115 | 115 |
| 5 | 10:20 | 120 | 120 | 120 | 120 |
| 6 | 10:25 | 125 | 125 | 125 | 125 |
| 7 | 10:30 | 130 | 130 | 130 | 130 |
| 8 | 10:35 | 135 | 135 | 135 | 135 |
| 9 | 10:40 | 140 | 140 | 140 | 140 |
| 10 | 10:45 | 145 | 145 | 145 | 145 |
| 11 | 10:50 | 150 | 150 | 150 | 150 |
| 12 | 10:55 | 155 | 155 | 155 | 155 |
| 13 | 11:00 | 160 | 160 | 160 | 160 |
| 14 | 11:05 | 165 | 165 | 165 | 165 |
| 15 | 11:10 | 170 | 170 | 170 | 170 |
| 16 | 11:15 | 175 | 175 | 175 | 175 |
| 17 | 11:20 | 180 | 180 | 180 | 180 |
| 18 | 11:25 | 185 | 185 | 185 | 185 |
| 19 | 11:30 | 190 | 190 | 190 | 190 |
| 20 | 11:35 | 195 | 195 | 195 | 195 |
| 21 | 11:40 | 200 | 200 | 200 | 200 |
| 22 | 11:45 | 205 | 205 | 205 | 205 |
| 23 | 11:50 | 210 | 210 | 210 | 210 |
| 24 | 11:55 | 215 | 215 | 215 | 215 |
| 25 | 12:00 | 220 | 220 | 220 | 220 |
| 26 | 12:05 | 225 | 225 | 225 | 225 |
| 27 | 12:10 | 230 | 230 | 230 | 230 |
| 28 | 12:15 | 235 | 235 | 235 | 235 |
| 29 | 12:20 | 240 | 240 | 240 | 240 |
| 30 | 12:25 | 245 | 245 | 245 | 245 |
| 31 | 12:30 | 250 | 250 | 250 | 250 |
| 32 | 12:35 | 255 | 255 | 255 | 255 |
| 33 | 12:40 | 260 | 260 | 260 | 260 |
| 34 | 12:45 | 265 | 265 | 265 | 265 |
| 35 | 12:50 | 270 | 270 | 270 | 270 |
| 36 | 12:55 | 275 | 275 | 275 | 275 |
| 37 | 13:00 | 280 | 280 | 280 | 280 |
| 38 | 13:05 | 285 | 285 | 285 | 285 |
| 39 | 13:10 | 290 | 290 | 290 | 290 |
| 40 | 13:15 | 295 | 295 | 295 | 295 |
| 41 | 13:20 | 300 | 300 | 300 | 300 |
| 42 | 13:25 | 305 | 305 | 305 | 305 |
| 43 | 13:30 | 310 | 310 | 310 | 310 |
| 44 | 13:35 | 315 | 315 | 315 | 315 |
| 45 | 13:40 | 320 | 320 | 320 | 320 |
| 46 | 13:45 | 325 | 325 | 325 | 325 |
| 47 | 13:50 | 330 | 330 | 330 | 330 |
| 48 | 13:55 | 335 | 335 | 335 | 335 |
| 49 | 14:00 | 340 | 340 | 340 | 340 |
| 50 | 14:05 | 345 | 345 | 345 | 345 |
| 51 | 14:10 | 350 | 350 | 350 | 350 |
| 52 | 14:15 | 355 | 355 | 355 | 355 |
| 53 | 14:20 | 360 | 360 | 360 | 360 |
| 54 | 14:25 | 365 | 365 | 365 | 365 |
| 55 | 14:30 | 370 | 370 | 370 | 370 |
| 56 | 14:35 | 375 | 375 | 375 | 375 |
| 57 | 14:40 | 380 | 380 | 380 | 380 |
| 58 | 14:45 | 385 | 385 | 385 | 385 |
| 59 | 14:50 | 390 | 390 | 390 | 390 |
| 60 | 14:55 | 395 | 395 | 395 | 395 |
| 61 | 15:00 | 400 | 400 | 400 | 400 |
| 62 | 15:05 | 405 | 405 | 405 | 405 |
| 63 | 15:10 | 410 | 410 | 410 | 410 |
| 64 | 15:15 | 415 | 415 | 415 | 415 |
| 65 | 15:20 | 420 | 420 | 420 | 420 |
| 66 | 15:25 | 425 | 425 | 425 | 425 |
| 67 | 15:30 | 430 | 430 | 430 | 430 |
| 68 | 15:35 | 435 | 435 | 435 | 435 |
| 69 | 15:40 | 440 | 440 | 440 | 440 |
| 70 | 15:45 | 445 | 445 | 445 | 445 |
| 71 | 15:50 | 450 | 450 | 450 | 450 |
| 72 | 15:55 | 455 | 455 | 455 | 455 |
| 73 | 16:00 | 460 | 460 | 460 | 460 |
| 74 | 16:05 | 465 | 465 | 465 | 465 |
| 75 | 16:10 | 470 | 470 | 470 | 470 |
| 76 | 16:15 | 475 | 475 | 475 | 475 |
| 77 | 16:20 | 480 | 480 | 480 | 480 |
| 78 | 16:25 | 485 | 485 | 485 | 485 |
| 79 | 16:30 | 490 | 490 | 490 | 490 |
| 80 | 16:35 | 495 | 495 | 495 | 495 |
| 81 | 16:40 | 500 | 500 | 500 | 500 |
| 82 | 16:45 | 505 | 505 | 505 | 505 |
| 83 | 16:50 | 510 | 510 | 510 | 510 |
| 84 | 16:55 | 515 | 515 | 515 | 515 |
| 85 | 17:00 | 520 | 520 | 520 | 520 |
| 86 | 17:05 | 525 | 525 | 525 | 525 |
| 87 | 17:10 | 530 | 530 | 530 | 530 |
| 88 | 17:15 | 535 | 535 | 535 | 535 |
| 89 | 17:20 | 540 | 540 | 540 | 540 |
| 90 | 17:25 | 545 | 545 | 545 | 545 |
| 91 | 17:30 | 550 | 550 | 550 | 550 |
| 92 | 17:35 | 555 | 555 | 555 | 555 |
| 93 | 17:40 | 560 | 560 | 560 | 560 |
| 94 | 17:45 | 565 | 565 | 565 | 565 |
| 95 | 17:50 | 570 | 570 | 570 | 570 |
| 96 | 17:55 | 575 | 575 | 575 | 575 |
| 97 | 18:00 | 580 | 580 | 580 | 580 |
| 98 | 18:05 | 585 | 585 | 585 | 585 |
| 99 | 18:10 | 590 | 590 | 590 | 590 |
| 100 | 18:15 | 595 | 595 | 595 | 595 |

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1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.



OFFICIAL FILE COPY

TDEW

Wind Data for Springfield, Missouri, 7 - 8 September 1964 25 Sep 64

U S Weather Station
Springfield, Missouri

1. We would like to have copies of the wind data for 7 - 8 Sep 64. Contact with the U S Weather Records Center at Ashville, North Carolina, revealed that these records are not forwarded for approximately thirty days.
2. We are attaching a self addressed label for your convenience in mailing. Thank you for your cooperation in this matter.

FOR THE COMMANDER

ERIC T de JONCKHEERE
Colonel, USAF
Deputy for Technology
and Subsystems

1 Atch
a/s

OFFICIAL FILE COPY

DATA PROCESSING DIVISION
CLIMATIC CENTER, USAF
Air Weather Service (MATS)
Asheville, North Carolina

REPLY TO
ATTN OF: CCDDP

SUBJECT: Selected Surface and Winds Aloft Data

28 Sep 1964

TO: Aerospace Technical Intelligence Center
Foreign Technology Division (Sgt. Moody)
Wright-Patterson AFB, Ohio

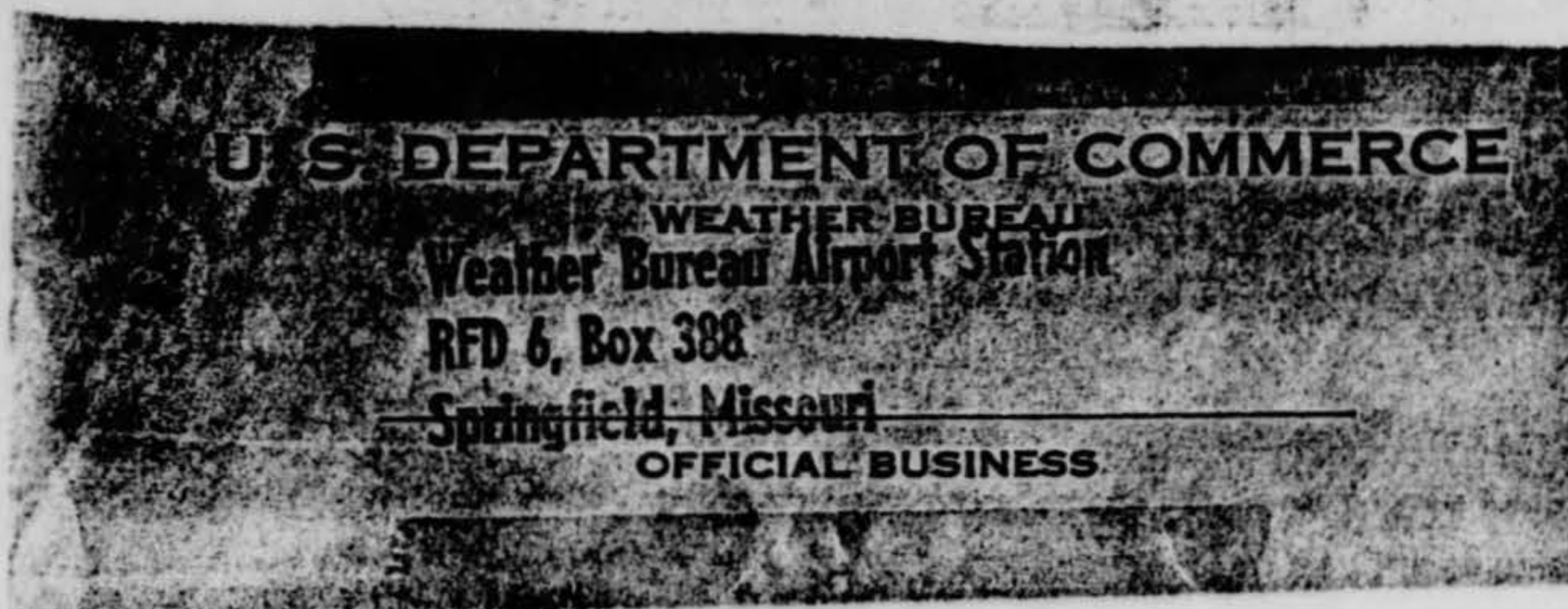
1. Reference: Telecon with this Division 24 Sep 64.
2. We are sending copies of weather records as follows:
 - a. WBAN-10 Anderson, S. C. 28-30 June 1964
 - b. WBAN-20 Colombia, Mo. 6-8 September 1964

3. Springfield, Missouri is a Pibal station, and it is doubtful that data reach 50-60,000 feet. This station submits data monthly and the September 1964 records are not yet available. However, Colombia, Missouri is a rawinsonde station which forwards records weekly and we have included copies of the 6-8 Sep 64 for Colombia as a substitute.

FOR THE DIRECTOR

Thomas D. Fillenworth
THOMAS D. FILLENWORTH
2D LT, USAF
Administrative Officer

Atch
a/s



amp the
ollowings:
Name of
Station
Lat. and
long.
Local
Standard
time, 90th
meridian
El. of Station
Method of
obs., e.g.,
rawinsonde,
rawin, pibal
Type of
equip., e.g.,
WBRT-57,
GMD-1A,
GMD-1,
SCR-658,
theodolite

Termination
Alt. for
150 & 300 m.
are with
respect to
ground, alt.
for other
standard levels
are in km., msl.

| *Identification | | | | | | | | | | U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU | | | | | | | | | | Year Month Day Time | | | |
|---|--|--------|---------------------------------------|-------------------|----------|---|-----------------------|--------|--------------------------|--|--------------|-------------------|--------------------------|------------------------|--|--|--|--|--|--|--|--|--|
| COLUMBIA, MO. 38° 58' N 92° 22' W LST-90th Meridian El. 238 Rawinsonde WBRT-57 | | | | | | | | | | WINDS-ALOFT COMPUTATION SHEET (LANDSTATION FORM) WBAN-20 | | | | | | | | | | Actual time th mer. 1964 SEP 5 1911 Scheduled (G.M.T.) 1964 SEP 6 01 Ascension No. 4 | | | |
| Type of balloon 100 gram | | | | | | | | | | Orientation, 360° = South | | | | | | | | | | Rawinsonde Time-Altitude Data | | | |
| Slant range (m.) (yds.) | Pibal ht. above sfc. (m.) 30 gram 100 gram | Minute | Rawin ht. above surface (m.) | Elevation angle ° | | Distance from observation point (m.) | Azimuth angle ° | Minute | Wind | | Con- tact | Pressure (mb.) | Altitude (m., m.s.l.) | Elapsed time (min.) | | | | | | | | | |
| | | | | Observed | Smoothed | | | | Direction ° 360° = N. | Speed (m.p.s.) | | | | | | | | | | | | | |
| | 216 | 1 | 250 | 46.6 | | 240 | 125.8 | 1 | 139 | 5.0 | 5 | 986 | 238 | 0.0 | | | | | | | | | |
| | 350 | 2 | 520 | 42.7 | | 570 | 138.8 | 2 | 146 | 5.5 | 10 | 941 | 600 | 1.4 | | | | | | | | | |
| | 414 | 3 | 790 | 41.0 | | 910 | 141.9 | 3 | 154 | 5.9 | 15 | 899 | 1220 | 3.1 | | | | | | | | | |
| | 612 | 4 | 1050 | 39.1 | | 1280 | 145.8 | 4 | 166 | 6.1 | 20 | 818 | 1640 | 6.3 | | | | | | | | | |
| | 980 | 5 | 1300 | 39.4 | | 1580 | 152.3 | 5 | 181 | 5.8 | 25 | 760 | 2480 | 9.3 | | | | | | | | | |
| | 1285 | 6 | 1580 | 40.3 | | 1860 | 156.7 | 6 | 193 | 5.0 | 30 | 704 | 3060 | 11.8 | | | | | | | | | |
| | 1585 | 7 | 1800 | 41.0 | | 2060 | 163.1 | 7 | 196 | 4.7 | 35 | 652 | 3760 | 14.5 | | | | | | | | | |
| | 1880 | 8 | 2050 | 41.9 | | 2300 | 166.9 | 8 | 207 | 4.6 | 40 | 602 | 4400 | 17.1 | | | | | | | | | |
| | 2170 | 9 | 2300 | 42.8 | | 2470 | 172.8 | 9 | 223 | 5.0 | 45 | 556 | 5020 | 19.6 | | | | | | | | | |
| | 2455 | 10 | 2570 | 43.9 | | 2640 | 181.0 | 10 | 241 | 5.6 | 50 | 508 | 5720 | 22.6 | | | | | | | | | |
| | 2740 | 11 | 2800 | 45.8 | | 2710 | 187.3 | 11 | 255 | 5.8 | 55 | 466 | 6400 | 25.5 | | | | | | | | | |
| | 3020 | 12 | 3010 | 46.8 | | 2810 | 194.1 | 12 | 262 | 5.9 | 60 | 424 | 7120 | 28.1 | | | | | | | | | |
| | 3300 | 13 | 3280 | 47.4 | | 2990 | 200.2 | 13 | 258 | 6.0 | 65 | 385 | 7890 | 31.4 | | | | | | | | | |
| | 3580 | 14 | 3500 | 46.7 | | 3250 | 204.8 | 14 | 248 | 6.8 | 70 | 349 | 8600 | 34.2 | | | | | | | | | |
| | 3865 | 15 | 3750 | 45.6 | | 3650 | 209.7 | 15 | 244 | 7.2 | 75 | 311 | 9300 | 37.4 | | | | | | | | | |
| | 4130 | 16 | 3980 | 44.7 | | 3990 | 213.1 | 16 | 243 | 7.8 | 80 | 282 | 10020 | 40.5 | | | | | | | | | |
| | 4405 | 17 | 4180 | 43.5 | | 4500 | 216.7 | 17 | 242 | 8.7 | 85 | 251 | 10840 | 43.6 | | | | | | | | | |
| | 4675 | 18 | 4450 | 41.9 | | 5000 | 219.3 | 18 | 239 | 10.2 | 90 | 223 | 11600 | 46.7 | | | | | | | | | |
| | 4945 | 19 | 4690 | 40.1 | | 5670 | 221.5 | 19 | 241 | 10.8 | 95 | 197 | 12500 | 49.9 | | | | | | | | | |
| | 5215 | 20 | 4920 | 38.6 | | 6200 | 223.9 | 20 | 248 | 10.5 | 100 | 172 | 13300 | 53.1 | | | | | | | | | |
| | 5490 | 21 | 5150 | 37.1 | | 6800 | 226.6 | 21 | 254 | 10.7 | 105 | 150 | 14114 | 56.2 | | | | | | | | | |
| | 5765 | 22 | 5390 | 35.9 | | 7390 | 228.4 | 22 | 255 | 12.9 | 110 | 128 | 15100 | 59.7 | | | | | | | | | |
| | 6040 | 23 | 5630 | 34.4 | | 8200 | 231.7 | 23 | 256 | 15.8 | 115 | 109 | 16100 | 63.5 | | | | | | | | | |
| | 6315 | 24 | | 32.1 | | 9160 | 234.7 | 24 | 252 | 17.5 | 120 | 91 | 17190 | 67.0 | | | | | | | | | |
| | 6590 | 25 | | 29.3 | | 10150 | 237.1 | 25 | 271 | 17.0 | 125 | 74 | 18410 | 70.7 | | | | | | | | | |
| | 6865 | 26 | | 28.2 | | 11600 | 240.7 | 26 | 278 | 17.3 | 130 | 58 | 19600 | 75.0 | | | | | | | | | |
| | 7140 | 27 | | 27.2 | | 12600 | 247.3 | 27 | 275 | 17.9 | 135 | 44 | 20800 | 79.0 | | | | | | | | | |
| | 7415 | 28 | | 26.0 | | 13600 | 252.2 | 28 | | | 140 | 38 | 22000 | 82.0 | | | | | | | | | |
| | 7690 | 29 | | 24.7 | | 14600 | 256.5 | 29 | | | 145 | 25 | 23600 | 85.0 | | | | | | | | | |
| | 7965 | 30 | | 23.5 | | 15600 | 261.8 | 30 | | | 150 | 15 | 25000 | 88.0 | | | | | | | | | |
| | 8240 | 31 | | 22.0 | | 16600 | 267.0 | 31 | | | 155 | 10 | 26400 | 91.0 | | | | | | | | | |
| | 8515 | 32 | | 20.7 | | 17600 | 272.0 | 32 | | | 160 | 5 | 27800 | 94.0 | | | | | | | | | |
| | 8790 | 33 | | 19.3 | | 18600 | 276.8 | 33 | | | 165 | 0 | 29200 | 97.0 | | | | | | | | | |
| | 9065 | 34 | | 17.9 | | 19600 | 282.0 | 34 | | | 170 | | | | | | | | | | | | |
| | 9340 | 35 | | 16.5 | | 20600 | 287.1 | 35 | | | | | | | | | | | | | | | |
| | 9615 | 36 | | 15.0 | | 21600 | 292.2 | 36 | | | | | | | | | | | | | | | |

| Punched Card Data | | | | | |
|-------------------|-----------|------------|---------|------------|-----------|
| Altitude | Direction | Speed | Card | Altitude | Direction |
| (m.p.s.) | (degrees) | (m.p.s.) | columns | (m.p.s.) | (degrees) |
| Card No. 1 | 15 | Card No. 2 | 16 | Card No. 3 | 17 |
| Type of | 18 | Type of | 19 | Type of | 20 |

Termination
Alt. for
150 & 300 m.
are with
respect to
ground, alt.
for other
standard levels
are in km., msl.

BURST

Computer A. R. BROWN

Verifier D. R. Lennard

| | | | | | | | | |
|------|----|-------|-------|-------|-------|----|-----|------|
| 3690 | 20 | 4720 | 38.6 | 6200 | 253.9 | 20 | 208 | 10.3 |
| 3750 | 21 | 5150 | 37.1 | 6500 | 226.5 | 21 | 254 | 10.7 |
| 3870 | 22 | 5390 | 35.9 | 7390 | 229.4 | 22 | 255 | 12.9 |
| 4060 | 23 | 5630 | 34.4 | 8200 | 231.7 | 23 | 256 | 15.8 |
| 4230 | 24 | 5720 | 37.9 | 9160 | 234.9 | 24 | 262 | 16.6 |
| 4410 | 25 | 5720 | 31.6 | 10000 | 237.6 | 25 | 270 | 16.4 |
| 4590 | 26 | 5720 | 50.5 | 10750 | 241.1 | 26 | 278 | 17.0 |
| 4770 | 27 | 5720 | 29.3 | 11600 | 244.7 | 27 | 278 | 19.3 |
| 4950 | 28 | 5720 | 28.2 | 12600 | 247.3 | 28 | 275 | 19.9 |
| 5130 | 29 | 5720 | 27.4 | 13600 | 249.3 | 29 | | |
| 5310 | 30 | | 26.7 | | 252.3 | 30 | 268 | 19.1 |
| 5490 | 31 | 7520 | 26.0 | 15400 | 251.1 | 31 | | |
| 5670 | 32 | | 25.3 | | 251.5 | 32 | 259 | 16.0 |
| 5850 | 33 | 8020 | 24.7 | 17350 | 251.8 | 33 | | |
| 6030 | 34 | | 24.0 | | 252.0 | 34 | 257 | 17.0 |
| 6210 | 35 | 8520 | 23.5 | 17500 | 252.1 | 35 | | |
| 6390 | 36 | | 22.8 | | 252.2 | 36 | 256 | 17.5 |
| 6570 | 37 | 9000 | 22.2 | 21900 | 252.5 | 37 | | |
| 6750 | 38 | | 21.8 | | 252.7 | 38 | 255 | 19.0 |
| 6930 | 39 | 9530 | 21.5 | 24000 | 252.9 | 39 | | |
| 7110 | 40 | | 21.1 | | 253.1 | 40 | 256 | 18.2 |
| 7290 | 41 | 10000 | 20.8 | 26200 | 253.4 | 41 | | |
| 7470 | 42 | | 20.4 | | 253.8 | 42 | 260 | 19.3 |
| 7650 | 43 | 10480 | 20.0 | 28500 | 254.0 | 43 | | |
| 7830 | 44 | | 19.75 | | 254.3 | 44 | 261 | 19.5 |
| 8010 | 45 | 10960 | 19.35 | 30950 | 254.6 | 45 | | |
| 8190 | 46 | | 19.05 | | 255.0 | 46 | 259 | 23.0 |
| 8370 | 47 | 11430 | 18.65 | 33700 | 255.4 | 47 | | |
| 8550 | 48 | | 18.35 | | 255.7 | 48 | 260 | 22.3 |
| 8730 | 49 | 11960 | 17.95 | 36500 | 255.8 | 49 | | |
| 8910 | 50 | | 17.65 | | 255.9 | 50 | 261 | 23.6 |

Coded Data for Transmission

| | | | | | | | | |
|-------|-------|-------|-------|--------|-------|-------|-------|-------|
| 00431 | 1408 | 21410 | 1512 | 41612 | 1811 | 61910 | 2009 | 82104 |
| 2310 | 02511 | 22613 | 42415 | 62420 | 82522 | 02632 | 32837 | 52833 |
| 52138 | 02645 | 52648 | 02633 | 32719 | 11999 | 02411 | 52510 | 80908 |
| 00809 | 50504 | 01306 | 01905 | 319050 | | | | |

| | | | |
|------|-----|-------|-------|
| 110 | 124 | 15400 | 57.1 |
| 115 | 107 | 16100 | 63.5 |
| 120 | 91 | 17190 | 67.0 |
| 125 | 74 | 18410 | 70.7 |
| 130 | 58 | 19960 | 76.0 |
| 135 | 44 | 21510 | 82.0 |
| 140 | 28 | 24420 | 90.7 |
| 145 | 12 | | |
| 1470 | 15 | 28694 | 100.5 |

Punched Card Data

| Altitude # | Direction (degrees) | Speed (m.p.s.) | Card columns | Altitude # | Direction (degrees) | Speed (m.p.s.) |
|-------------------|---------------------|----------------|--------------|------------|---------------------|----------------|
| Card No. 1 | | | | 15 | Card No. 2 | |
| Type of equipment | | | | 16 | Type of equipment | |
| sfc. | 110 | 4 | 17-21 | 7 | 279 | 19 |
| 150 M. | 139 | 5 | 22-26 | 8 | 262 | 16 |
| 300 M. | 139 | 5 | 27-31 | 9 | 255 | 20 |
| 0.5 | 137 | 5 | 32-36 | 10 | 256 | 17 |
| 1.0 | 132 | 6 | 37-41 | 11 | 261 | 22 |
| 1.5 | 128 | 6 | 42-46 | 12 | 269 | 21 |
| 2.0 | 195 | 5 | 47-51 | 13 | 262 | 25 |
| 2.5 | 215 | 5 | 52-56 | 14 | 260 | 22 |
| 3 | 253 | 6 | 57-61 | 15 | 264 | 17 |
| 4 | 243 | 7 | 62-66 | 16 | 271 | 17 |
| 5 | 243 | 11 | 67-71 | 17 | 272 | 17 |
| 6 | 260 | 17 | 72-76 | 18 | 253 | 17 |

Maximum Wind Speed Data

| | | |
|--|--|--|
| Min. alt. wind speed 45 m.p.s. or more (m.) | | |
| Alt. of maximum wind speed (m.) | | |
| Dir. (degrees) and speed (m.p.s.) of Max. wind | | |
| Max. alt. wind speed 45 m.p.s. or more (m.) | | |
| Enter check if additional levels appear on reverse side. | | |

amp the
following:
Name of
Station
Lat. and
long.
Local
Standard
time, 90th
meridian
El. of Station
Method of
obs., e.g.,
rawinsonde,
rawin, pibal
Type of
equip., e.g.,
WBRT-57,
GMD-1A,
GMD-1,
SCR-658,
theodolite

Termination
Alt. for
150 & 300 m.
ore with
respect to
ground, alt.
or other
standard levels
are in km., msl.

| *Identification | | | | | | | | | | U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU | | | | | | | | | | Year Month Day Time | | | |
|---|---------------------------------|-------------|--------|---------------------------------------|-------------------|----------|---|-----------------------|--------|--|-------------------|--------------|-------------------|--------------------------|------------------------|--|--|--|--|--|--|--|--|
| COLUMBIA, MO. 38° 58' N 92° 22' W LST-90th Meridian El. 238 Rawinsonde WBRT-57 | | | | | | | | | | WINDS-ALOFT COMPUTATION SHEET (LANDSTATION FORM) WBAN-20 | | | | | | | | | | Actual time th mer. 1964 SEP 5 191 Scheduled (G.M.T.) 1964 SEP 6 00 Ascension No. 92 | | | |
| Type of balloon LA 32 | | | | | | | | | | Orientation, 360° = South | | | | | | | | | | Rawinsonde Time-Altitude Data | | | |
| Slant range (m.) (yds.) | Pibal ht. above sfc. (m.) | | Minute | Rawin ht. above surface (m.) | Elevation angle ° | | Distance from observation point (m.) | Azimuth angle ° | Minute | Wind | | Con- tact | Pressure (mb.) | Altitude (m., m.s.l.) | Elapsed time (min.) | | | | | | | | |
| | 30 gram | 100 gram | | | Observed | Smoothed | | | | Direction ° 360° = N. | Speed (m.p.s.) | | | | | | | | | | | | |
| | 216 | 350 | 1 | 250 | 46.6 | | 240 | 125.8 | 1 | 139 | 5.0 | 5 | 986 | 238 | 0.0 | | | | | | | | |
| | 414 | 620 | 2 | 520 | 42.7 | | 570 | 138.8 | 2 | 146 | 5.5 | 10 | 941 | 620 | 1.4 | | | | | | | | |
| | 612 | 980 | 3 | 720 | 41.0 | | 910 | 141.9 | 3 | 154 | 5.9 | 15 | 879 | 1220 | 3.1 | | | | | | | | |
| | 801 | 1285 | 4 | 1050 | 39.1 | | 1280 | 146.8 | 4 | 166 | 6.1 | 20 | 818 | 1740 | 6.3 | | | | | | | | |
| | 990 | 1585 | 5 | 1300 | 39.4 | | 1580 | 152.3 | 5 | 181 | 5.8 | 25 | 760 | 2480 | 9.3 | | | | | | | | |
| | 1170 | 1880 | 6 | 1580 | 40.3 | | 1860 | 158.7 | 6 | 193 | 5.0 | 30 | 704 | 3060 | 11.8 | | | | | | | | |
| | 1350 | 2170 | 7 | 1700 | 41.0 | | 2060 | 163.1 | 7 | 196 | 4.7 | 35 | 652 | 3760 | 14.5 | | | | | | | | |
| | 1530 | 2455 | 8 | 2050 | 41.9 | | 2300 | 166.9 | 8 | 207 | 4.6 | 40 | 602 | 4400 | 17.1 | | | | | | | | |
| | 1710 | 2740 | 9 | 2300 | 42.8 | | 2470 | 172.8 | 9 | 223 | 5.0 | 45 | 556 | 5020 | 19.6 | | | | | | | | |
| | 1890 | 3020 | 10 | 2570 | 43.9 | | 2640 | 181.0 | 10 | 241 | 5.6 | 50 | 508 | 5720 | 22.6 | | | | | | | | |
| | 2070 | 3300 | 11 | 2800 | 45.8 | | 2710 | 187.3 | 11 | 255 | 5.8 | 55 | 456 | 6400 | 25.5 | | | | | | | | |
| | 2250 | 3580 | 12 | 3010 | 46.8 | | 2810 | 194.1 | 12 | 262 | 5.9 | 60 | 404 | 7120 | 28.1 | | | | | | | | |
| | 2430 | 3855 | 13 | 3280 | 47.4 | | 2990 | 200.2 | 13 | 258 | 6.0 | 65 | 385 | 7890 | 31.4 | | | | | | | | |
| | 2610 | 4130 | 14 | 3500 | 46.7 | | 3250 | 204.8 | 14 | 248 | 6.8 | 70 | 349 | 8600 | 34.2 | | | | | | | | |
| | 2790 | 4405 | 15 | 3750 | 45.6 | | 3650 | 209.7 | 15 | 244 | 7.2 | 75 | 311 | 9300 | 37.4 | | | | | | | | |
| | 2970 | 4675 | 16 | 3980 | 44.7 | | 3990 | 213.1 | 16 | 243 | 7.8 | 80 | 280 | 10020 | 40.5 | | | | | | | | |
| | 3150 | 4945 | 17 | 4180 | 43.5 | | 4500 | 216.7 | 17 | 242 | 8.7 | 85 | 251 | 10840 | 43.6 | | | | | | | | |
| | 3330 | 5215 | 18 | 4450 | 41.9 | | 5000 | 219.3 | 18 | 239 | 10.2 | 90 | 223 | 11600 | 46.7 | | | | | | | | |
| | 3510 | 5485 | 19 | 4690 | 40.1 | | 5670 | 221.5 | 19 | 241 | 10.8 | 95 | 197 | 12500 | 49.9 | | | | | | | | |
| | 3690 | 5755 | 20 | 4920 | 38.6 | | 6200 | 223.9 | 20 | 248 | 10.5 | 100 | 172 | 13300 | 53.1 | | | | | | | | |
| | 3870 | 6025 | 21 | 5150 | 37.1 | | 6800 | 226.6 | 21 | 254 | 10.7 | 105 | 150 | 14114 | 56.2 | | | | | | | | |
| | 4050 | 6295 | 22 | 5390 | 35.9 | | 7390 | 228.4 | 22 | 255 | 12.9 | 110 | 128 | 15100 | 59.7 | | | | | | | | |
| | 4230 | 6565 | 23 | 5630 | 34.4 | | 8200 | 231.4 | 23 | 256 | 15.8 | 115 | 109 | 16100 | 63.5 | | | | | | | | |
| | 4410 | 6835 | 24 | 5870 | 32.2 | | 9160 | 234.2 | 24 | 262 | 18.0 | 120 | 91 | 17190 | 67.0 | | | | | | | | |
| | 4590 | 7105 | 25 | 6110 | 29.3 | | 10250 | 237.0 | 25 | 270 | 16.4 | 125 | 74 | 18410 | 70.7 | | | | | | | | |
| | 4770 | 7375 | 26 | 6350 | 26.2 | | 11600 | 240.7 | 26 | 278 | 17.0 | 130 | 58 | 19630 | 75.0 | | | | | | | | |
| | 4950 | 7645 | 27 | 6590 | 22.2 | | 12600 | 243.5 | 27 | 285 | 17.9 | 135 | 44 | 20850 | 79.0 | | | | | | | | |
| | 5130 | 7915 | 28 | 6830 | 18.1 | | 13600 | 246.2 | 28 | 292 | 18.1 | 140 | 30 | 22070 | 83.0 | | | | | | | | |
| | 5310 | 8185 | 29 | 7070 | 14.0 | | 14600 | 249.0 | 29 | 299 | 18.1 | 145 | 16 | 23290 | 87.0 | | | | | | | | |
| | 5490 | 8455 | 30 | 7310 | 9.9 | | 15600 | 251.8 | 30 | 306 | 18.1 | 150 | 1 | 24510 | 91.0 | | | | | | | | |
| | 5670 | 8725 | 31 | 7550 | 5.8 | | 16600 | 254.6 | 31 | 313 | 18.1 | 155 | 1 | 25730 | 95.0 | | | | | | | | |
| | 5850 | 9000 | 32 | 7790 | 1.7 | | 17600 | 257.4 | 32 | 320 | 18.1 | 160 | 1 | 26950 | 99.0 | | | | | | | | |
| | 6030 | 9265 | 33 | 8030 | 0.0 | | 18600 | 260.2 | 33 | 327 | 18.1 | 165 | 1 | 28170 | 103.0 | | | | | | | | |
| | 6210 | 9535 | 34 | 8270 | 0.0 | | 19600 | 263.0 | 34 | 334 | 18.1 | 170 | 1 | 29390 | 107.0 | | | | | | | | |
| | 6390 | 9805 | 35 | 8510 | 0.0 | | 20600 | 265.8 | 35 | 341 | 18.1 | 175 | 1 | 30610 | 111.0 | | | | | | | | |
| | 6570 | 10075 | 36 | 8750 | 0.0 | | 21600 | 268.6 | 36 | 348 | 18.1 | 180 | 1 | 31830 | 115.0 | | | | | | | | |

| Punched Card Data | | | | | |
|-------------------|-----------|------------|---------|------------|-----------|
| Altitude | Direction | Speed | Card | Altitude | Direction |
| (m.p.s.) | (degrees) | (m.p.s.) | columns | (m.p.s.) | (degrees) |
| Card No. 1 | 15 | Card No. 2 | 15 | Card No. 3 | 15 |
| Type of | 15 | Type of | 15 | Type of | 15 |